

MILLER CONSTRUCTION, INC.

P.O. BOX 86 ASCUTNEY BLVD WINDSOR, VERMONT 05089-0086
TELEPHONE (802) 674-5525 / FAX (802) 674-5245

TRANSMITTAL

TO: Jennifer Fitch, PE Project Manager Vermont Agency of Transportation	DATE	PROJECT NO.
	6/30/2014	Brookfield BRF FLBR (2)

XX

WE ENCLOSE THE FOLLOWING:

UNDER SEPARATE COVER WE ARE SENDING THE FOLLOWING

COPIES	NUMBER	DESCRIPTION	CODE
1		FRP Component Fabrication Drawings - Rev 1-1	H
1		FRP Assembly Procedure Drawings - Rev 1-1	H

CODE:

A FOR INITIAL APPROVAL

B FOR FINAL APPROVAL

C APPROVED AS NOTED-RESUBMISSION REQUIRED

D APPROVED AS NOTED-RESUBMISSION NOT REQUIRED

E DISAPPROVED-RESUBMIT

F QUOTATION REQUESTED

G APPROVED

H FOR APPROVAL

I AS REQUESTED OR REQUIRED

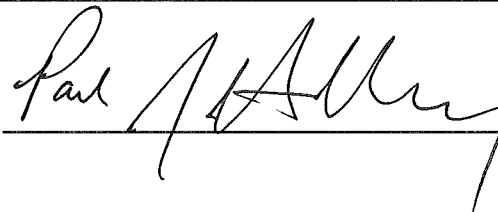
J FOR USE IN ERECTION

K LETTER FOLLOWS

L FOR FIELD CHECK

M FOR YOUR USE

BY:



Rev 1 Changes to Fabrication Drawing

Item	Comment	Resolution
1	Separate stainless shelf into its own submittal	Stainless components have been moved to a separate drawing for submittal
2	Note roughened surface preparation	Grit blasted surface preparation has been added to general notes
3	2" laps all directions, all plies	All <u>structural</u> overlaps are changed to 2" min. – C-veil is included for cosmetics only and will not be held to the 2" min.
4	Will cut/drilled edges be sealed?	Note changed to call out final coating of all exposed fiber from cutting/drilling
5	Provide anticipated cure temperature	Notes added regarding desired gel time and anticipated peak exotherm
6	1" thick only in tapered regions of hull – need to add a section view?	Section view added to show ½" thick
7	Any laps in the roll direction?	Pre-selected roll length chosen to avoid any laps in longitudinal direction
8	Bottom hull dimension of 107-3/4" incorrect	Dimension is fixed – line had snapped to wrong point on fillet
9	Should dimensions to edge of flange and bottom of vertical wall in "flattened" view be labeled typical?	Dimensions now shown as typical on first sketch of each hull layup sheet
10	Note bolting flange layup is in addition to typical ½" laminate	Label has been added to sketch to indicate additional laminate
11	Questionable dimensions on transverse rod bulkhead	Dimensions have been corrected
12	Are all fabric corners intended to be cut out or slit and overlapped?	Solid line indicates a cut edge, dashed line indicates a fold – most corners have 1 cut and the tab is folded across the corner unless otherwise noted as remove
13	Where are the details for the top plate stiffener? Secondary infusion? Layup?	Changed note to indicate stiffener is infused with primary laminate and noted layup schedule for facing
14	Clarify the intent of the statement regarding perforations	Since the stiffener is infused with the primary laminate, the core must be perforated for resin flow – this note has been removed since core will come perforated from the factory

Rev 1 Changes to Assembly Drawing

Item	Comment	Resolution
1	Note MMA cure/clamp time	Notes added showing cure time and fixture time of MMA
2	Note cure time of foam	Note added showing tack free time and time to wait before shaping
3	Should MMA bead be larger for the 6" flange?	Note has been modified to define bead size for 3" and 6" flanges at 1/8" thick
4	Denote top of pontoon and "typical" to appropriate dimensions	Added notes and dimensions
5	Stainless steel shelf is a separate pay item, please separate	Stainless shelf components are all on a unique drawing
6	Need to provide material specifications	Material specification notes are added
7	FRP shim plate details?	FRP shim plates added to shelf drawing
8	Add roll direction to plates	Roll direction added
9	Where are details for threaded rod components?	Threaded rod requirements have been added to galvanized steel drawing notes; protective end caps to be detailed elsewhere
10	Need to provide welding procedure	Note added to define welding specification
11	Are bolts, nuts, and washers to be detailed here?	Note added to define hardware requirements
12	Need to locate bearing device holes	Drawing updated to show location of bearing pad holes
13	Add 15/16" hole diameter dimension	Hole dimension added to stainless shelf

STATE OF VERMONT

BROOKFIELD FLOATING BRIDGE

BRIDGE REPLACEMENT PROJECT

PROJECT NAME: BROOKFIELD

PROJECT NUMBER: BRF FLBR (2)

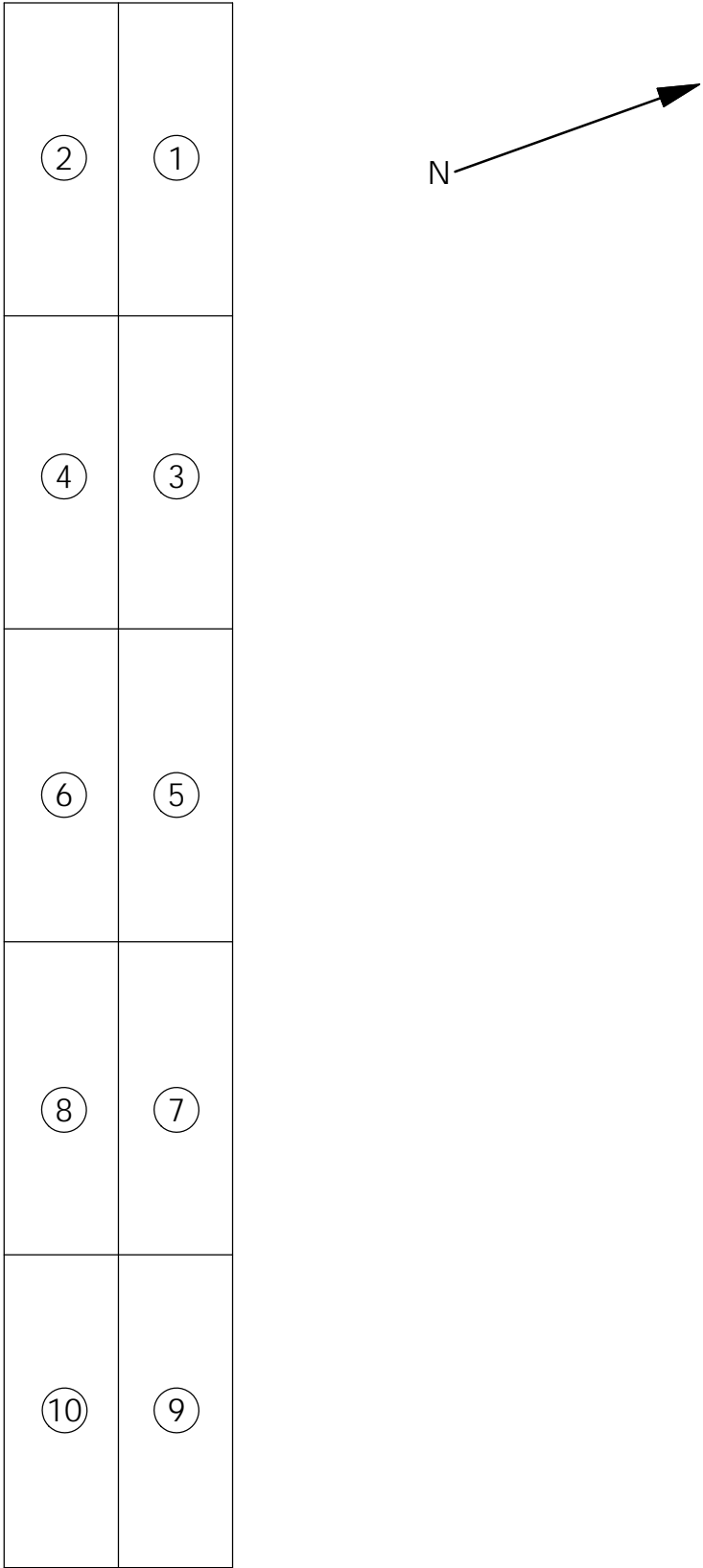
JUNE 4, 2014

FIBER REINFORCED POLYMER (FRP) PONTOON COMPONENT FABRICATION

SHEET INDEX:

- 00 COVER SHEET
- 01 GENERAL NOTES
- 02 HULL 3 TO 8 DIMENSIONS
- 03 HULL 3 TO 8 MATERIAL LAYUP SCHEDULE
- 04 END HULL DIMENSIONS
- 05 END HULL MATERIAL LAYUP SCHEDULE
- 06 HULL INFUSION LAYOUT AND DETAILS
- 07 BULKHEAD DIMENSIONS
- 08 END BULKHEADS LAYUP SCHEDULE
- 09 TRANSVERSE ROD BULKHEAD LAYUP SCHEDULE
- 10 MIDDLE LONGITUDAL BULKHEAD LAYUP SCHEDULE
- 11 END LONGITUDAL BULKHEAD LAYUP SCHEDULE
- 12 BULKHEAD INFUSION LAYOUT AND DETAILS
- 13 HALF TOP PLATE DIMENSIONS
- 14 END HALF TOP PLATE DIMENSIONS
- 15 HALF TOP PLATE LAYUP SCHEDULE
- 16 HALF TOP PLATE INFUSION LAYOUT AND DETAILS

ASSEMBLY OF THE PONTOONS USING THE COMPONENTS
FABRICATED FROM THIS DRAWING IS DESCRIBED IN DWG: 8420-8.



PONTOON NUMBERING

FABRICATION NOTES

- FABRIC:
VECTORPLY E-BXM 4008 ±45
TEAM 54OZ 0/90 E-GLASS
PPG C-VEIL E-GLASS
- FLOTATION FOAM:
PFPI 23-008(2) URETHANE FOAM
- RESIN:
INTERPLASTICS CORVE 8100-50 VINYL ESTER
- ADDITIVES:
BASF TINUVIN 328 ULTRAVIOLET LIGHT ABSORBER
ADVANCED COATINGS A-8-14265 GRAY PIGMENT
- CATALYST:
SYRGIS NOROX MEKP 925
- PROMOTERS:
DURA CHEMICALS DUROCT COBALT
PURITAN PRODUCTS DIMETHYLANILINE (DMA)
- TOLERANCES:
LENGTH: +/- 1/2"
ADJACENT UNIT LENGTHS: +/- 1/2"
DEPTH & WIDTH: +/- 1/4"
WALL THICKNESS: + 1/16, - 0
SURFACE FLATNESS: +/- 1/16 PER 48"
SWEEP: +/- 1/8"
CAMBER: + 1/2", - 1/4"
DEVIATION FROM DIAGONALS: +/- 3/4"
DEVIATION FROM END SQUARENESS: +/- 1/4"
INSERT OR HOLE LOCATIONS: +/- 1/8"
VERTICAL DIFFERENTIAL BETWEEN PONTON SURFACES: +/- 1/8"
FLOATING SPAN OVERALL LENGTH: +/- 1/2"
- REPAIRS:
REPAIRS ARE NOT TO EXCEED DEFECTS INDENTIFIED BY ASTM
D 2563 (MORE THAN 2 DEFECTS WITHIN A 1 FT RADIUS). TO BE
REPAIRED PER KENWAY QA/QC PLAN.
- CURING:
PARTS ARE TO BE LEFT IN THE MOLD FOR A PERIOD OF NO LESS
THAN 6 HOURS AFTER ALL HOSES HAVE BEEN CLAMPED. PARTS
MUST BE UNDER FULL VACUUM PRESSURE FOR A PERIOD OF NO
LESS THAN 6 HOURS. BARCOL HARDNESS READINGS OF NO LESS
THAN 40 WILL BE ACCEPTABLE.
- SURFACE PREP:
CLEAN SURFACE OF CONTAMINENTS INCLUDING MOLD RELEASE
AGENT, RESIN RIDGES AND/OR DRIPS.
- 1

GRIT BLASTING:
VERTICAL SURFACE THAT MATES WITH ADJOINING PONTOON SHALL
BE GRIT BLASTED USING 60-120 MESH GLASS BEADS AT 80 PSI -
DURATION SHALL BE APPROXIMATELY 1 MINUTE PER SQ.FT.
- LABELING:
EACH PONTOON IS TO BE LABELED WITH KENWAY NAME
PLATES ON THE UPSTATION END WALL. IT SHALL INCLUDE
AT A MINIMUM THE FABRICATOR NAME, DATE OF MANUFACTURE,
AND MARK NUMBER
- WITNESS PANELS:
PANELS HAVING A MINIMUM LENGTH AND WIDTH OF 2 FT SHALL BE
FABRICATED AT THE SAME TIME AS THE HULL TO BE USED FOR
RANDOM TESTING. THE LAYUP SHALL CONSIST OF THE FOLLOWING:
(1) 1708
(3) 54
(1) 1708


- 1

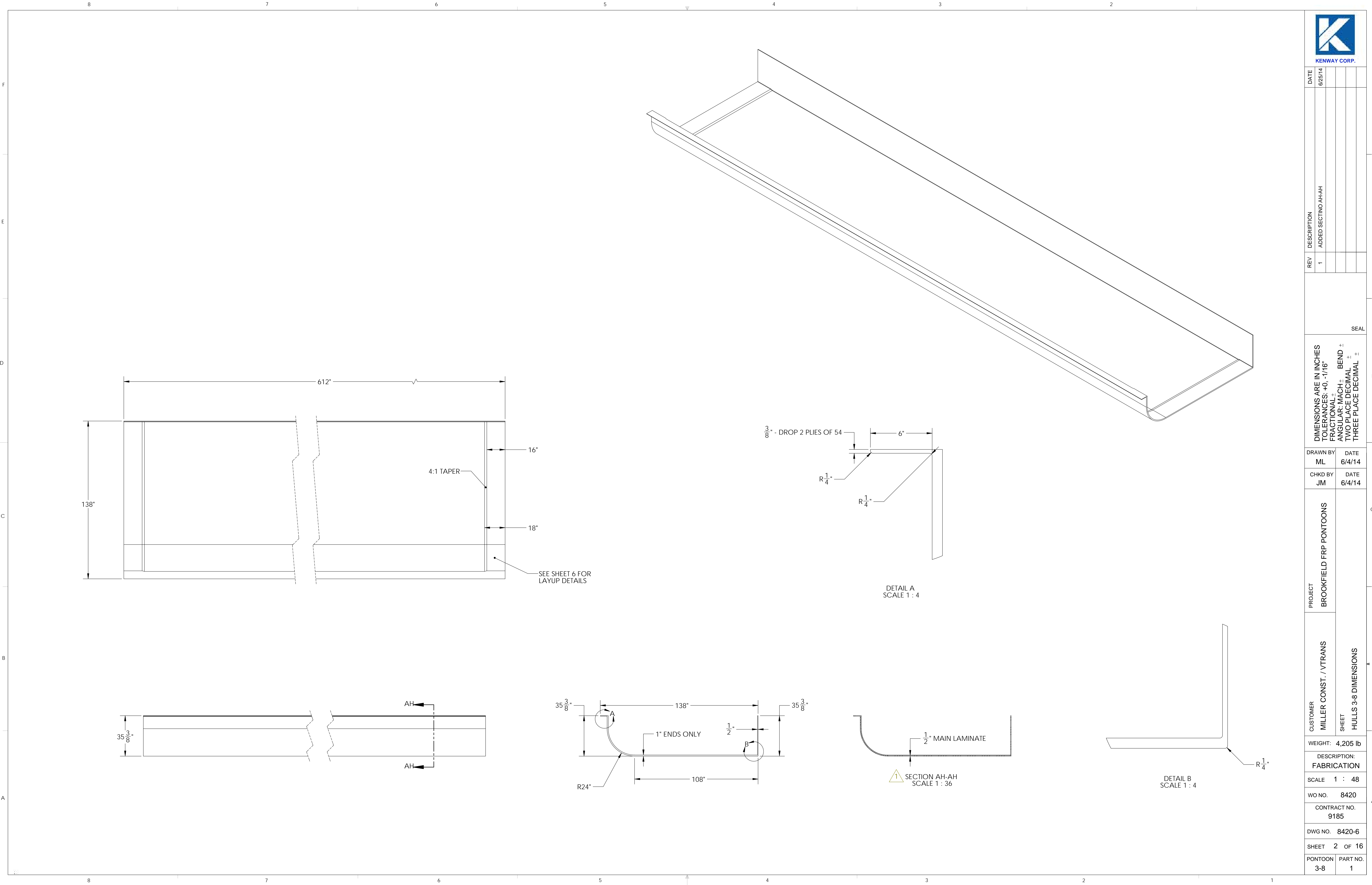
LAYUP REQUIREMENTS:
MINIMUM TRANSVERSE LAP SPLICE TO BE 2 INCHES FOR ALL VECTORPLY
E-BXM 4008. TEAM 54 OZ MATERIAL MAY BE BUTTED TOGETHER. C-VEIL IS
COSMETIC ONLY AND REQUIRES MINIMAL OVERLAP. LONGITUDINAL
SEAMS ARE INCLUDED BY DESIGN. NO MORE THAN 2 SPLICES IN THE
SAME LOCATION. LAP SPLICES TO BE PER KENWAY FABRICATION
DRAWINGS.
- 1

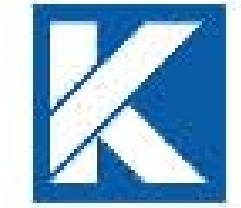
FINISHING:
GENERALLY, NO CUTTING OF FINISHED PARTS WILL BE ALLOWED EXCEPT
FOR BOLT HOLES AND COPED CORNER IN BULKHEADS AS SHOWN IN
DRAWINGS - EXPOSED GLASS SHALL BE FINAL COATED WITH RESIN
- LIFTING:
LIFTING OF FINISHED MOLDED PART SHALL ONLY BE BY THE
ATTACHED LIFTING LUGS OR BASKET SLING. LIFTING BY ANY OTHER
METHOD IS PROHIBITED UNLESS APPROVED BY THE ENGINEER.
- HANDLING/STORAGE:
ALL FINISHED PARTS MUST BE HANDLED WITH CARE IN ORDER
TO PREVENT DAMAGE. FINISHED PARTS MUST BE PROTECTED
FROM UV LIGHT AND SUPPORTED BELOW BULKHEADS. STACKING OF
PONTOONS WILL BE ACCEPTABLE.
- INSPECTION:
ALL PONTOONS MUST BE INSPECTED BY KENWAY PROJECT
ENGINEER & VERMONT DOT AGENCY REPRESENTATIVE PRIOR
TO SHIPMENT.
- INFUSION NOTES**
PERFORATED RELEASE FILM SHALL BE APPLIED OVER THE ENTIRE PART
- SHADE CLOTH SHALL BE APPLIED OVER THE PART BUT WILL STOP 3"
FROM THE EDGE OF THE PART UNLESS OTHERWISE NOTED
- FEED LINES SHALL START AT THE CENTER OF THE PART AND BE SPACED
NOMINALLY 16" APART UNLESS OTHERWISE NOTED - FEED TUBE INPUT
LOCATIONS SHALL GENERALL BE AT THE CENTER OF THE FEED LINE
- VAC LINES SHALL BE LAID OUT IN SEPARATE ZONES AS NOTED IN THE
DRAWING TO ALLOW FOR CLAMPING INDIVIDUAL ZONES IF REQUIRED
AND SHALL PROVIDE AT LEAST 6" BETWEEN THE PART AND THE TUBE
- RESIN BUCKETS SHALL BE PLACED SUCH THAT THE HEIGHT OF THE RESIN
IS EVEN WITH OR UP TO 12" BELOW THE LOWEST POINT ON THE PART
- PARTS SHALL BE FED STARTING FROM THE CENTER FEED LINE -
ADJACENT LINES SHALL BE OPENED ONCE THE RESIN FLOW FRONT IS
APPROXIMATELY 3-4" PAST THE NEXT FEED LINE
- A MINIMUM AMOUNT OF RESIN SHALL BE KEPT IN THE BUCKET TO AVOID
PULLING AIR INTO THE LINE - LINES WILL ONLY BE CLAMPED ONCE THE
RESIN IN THE BUCKET HAS GELLED
- FLOODED VAC LINES MAY BE CLAMPED IF NEEDED - HOWEVER, AT
LEAST ONE VAC LINE MUST REMAIN OPEN FOR 6 HOURS AFTER THE PART
IS FILLED
- 1

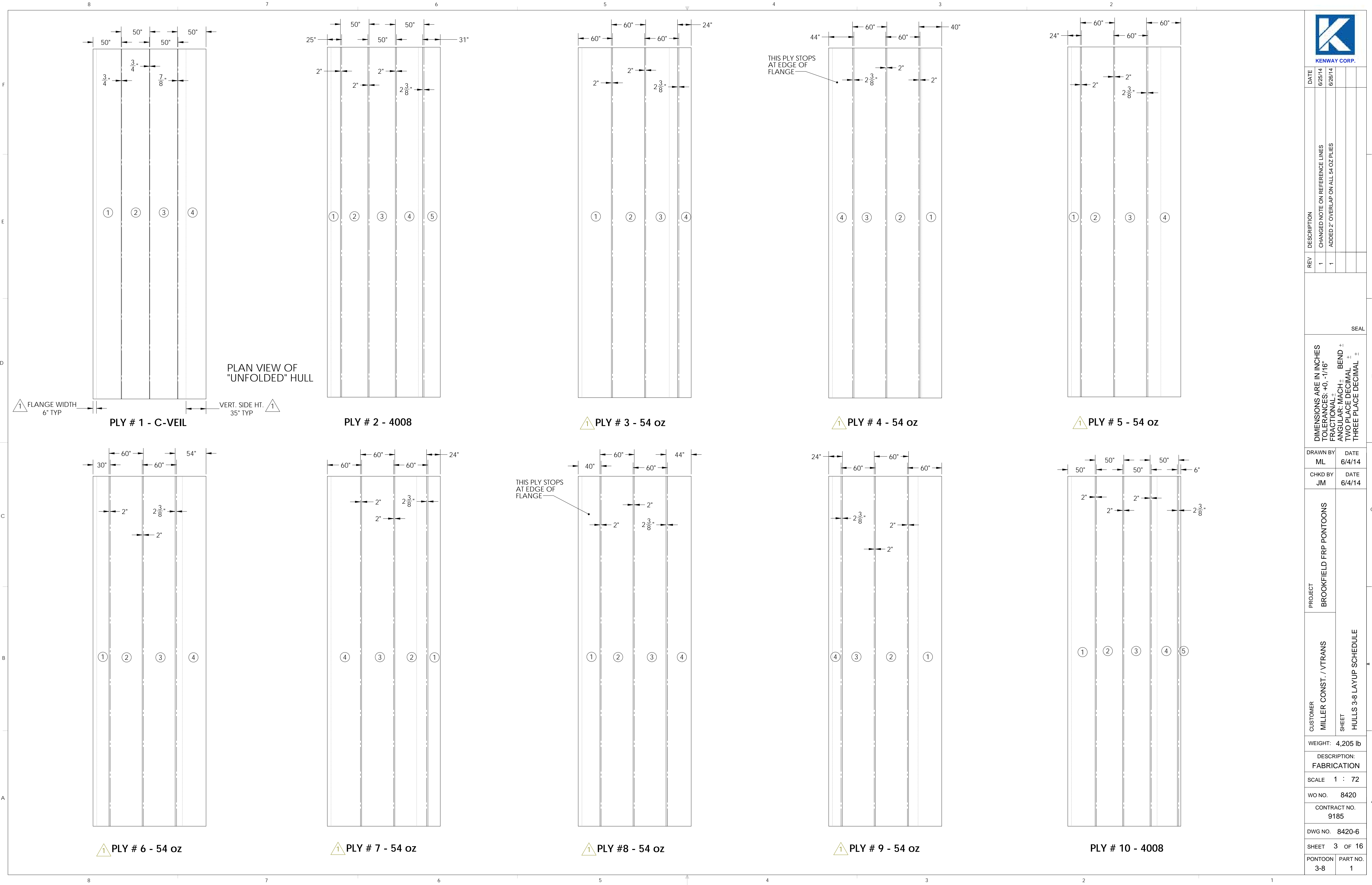
PART AND RESIN TEMPERATURE SHALL BE BETWEEN 70-90F AT TIME OF
INFUSION - ADJUST CATALYST RATIO AS NEEDED TO ACHIEVE 40-60
MINUTE GEL TIME
- 1


ANTICIPATED PEAK EXOTHERM DURING CURE IS 230F +/-30F

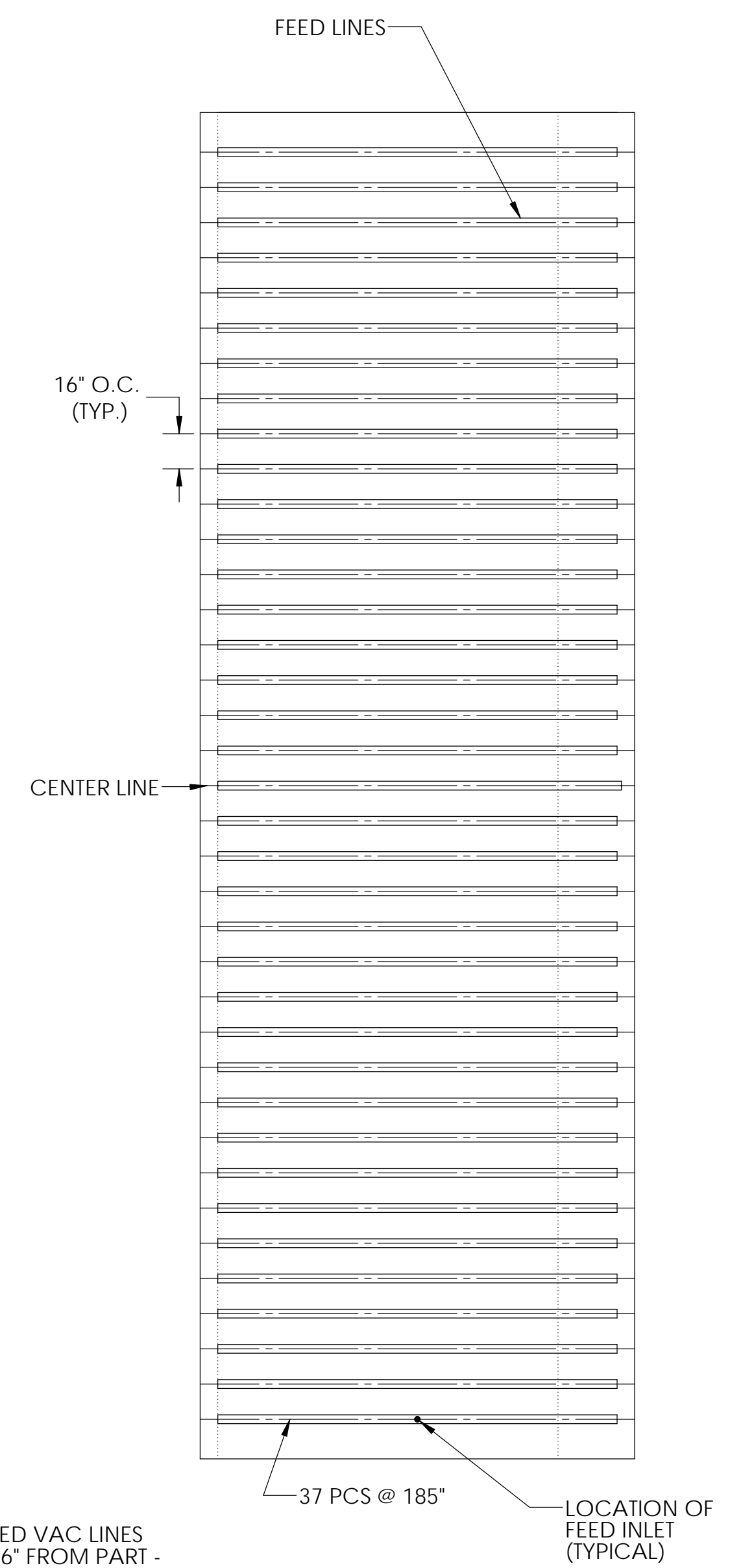
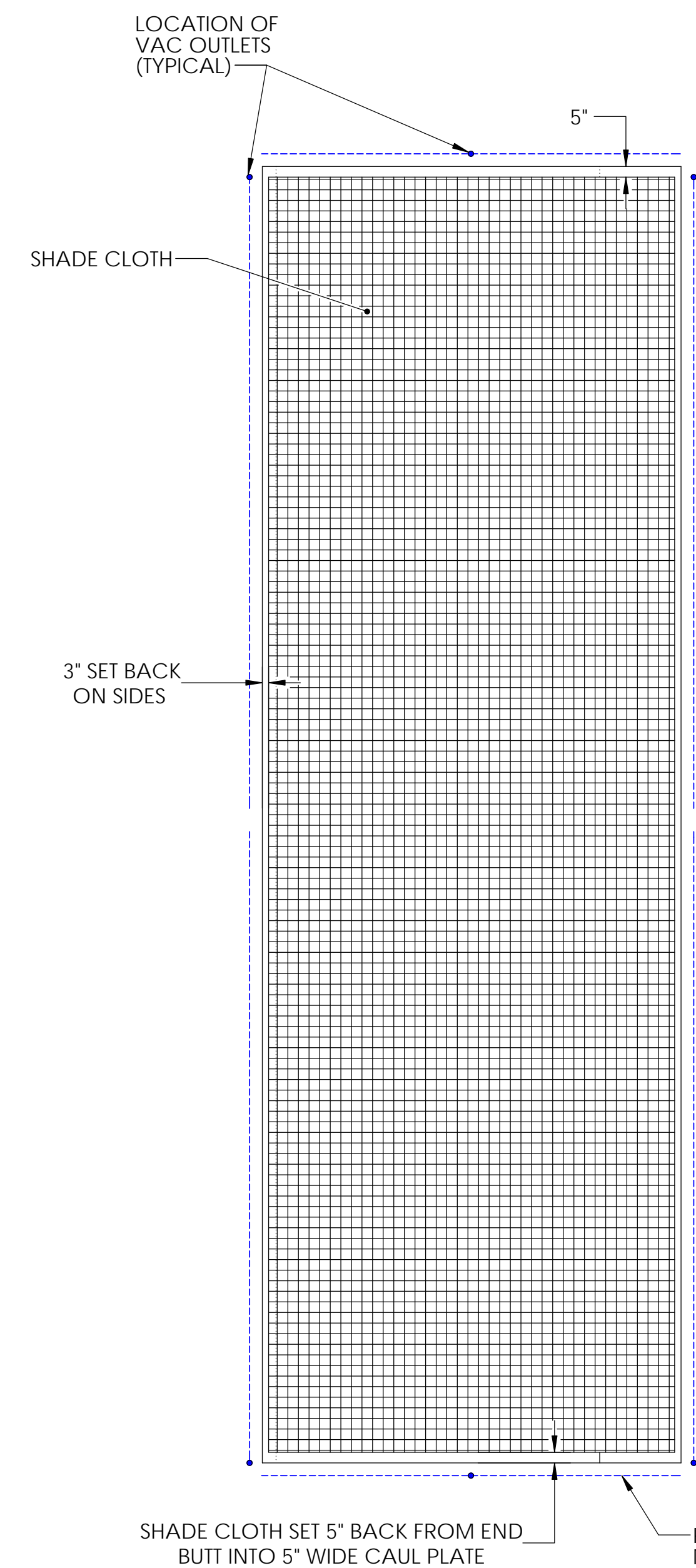
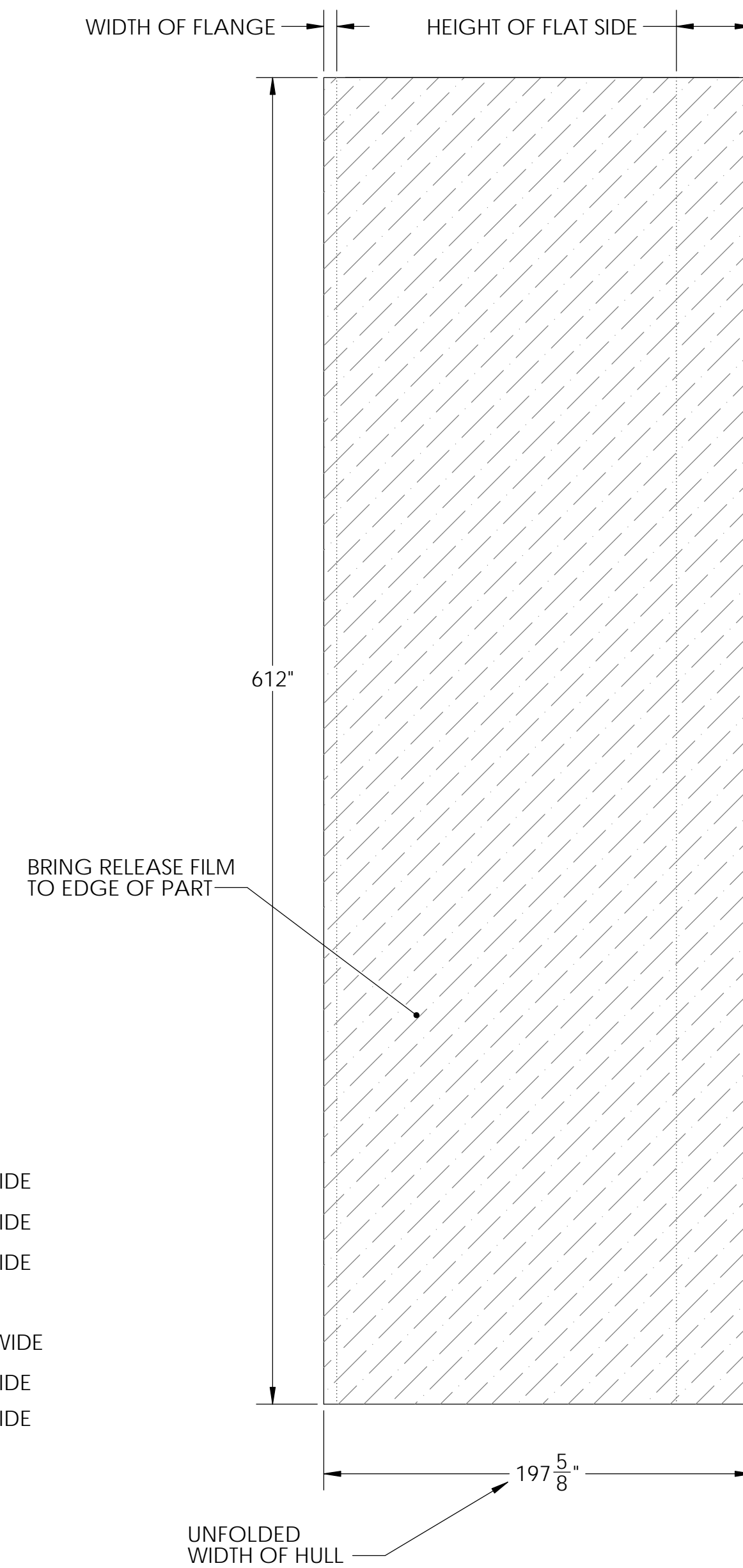
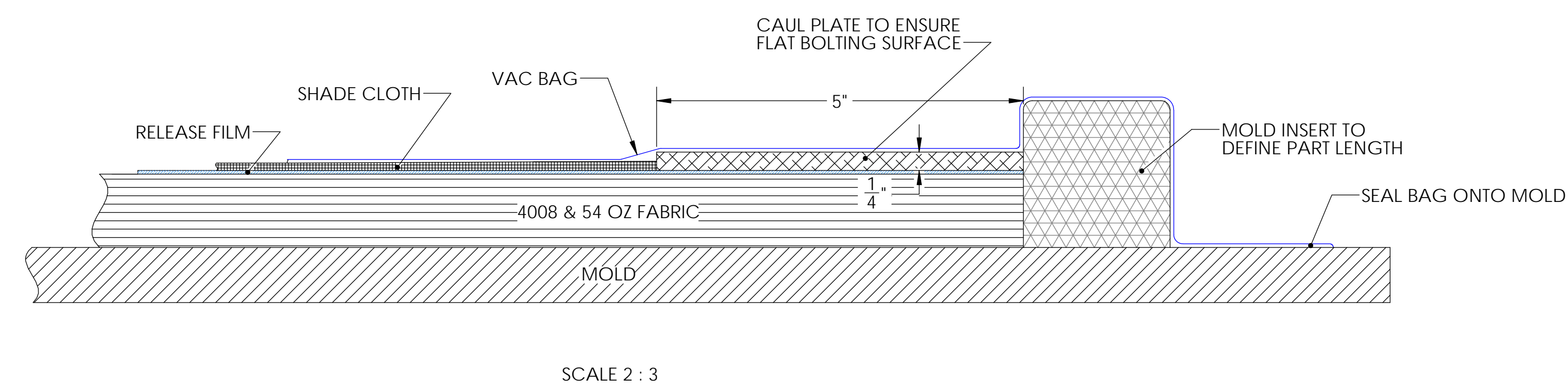
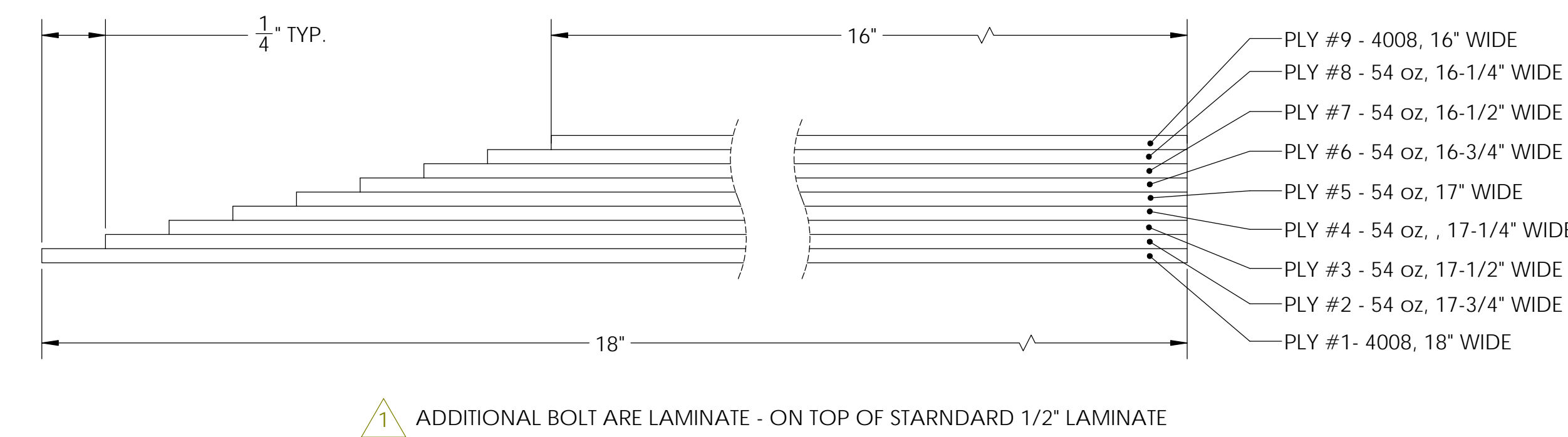
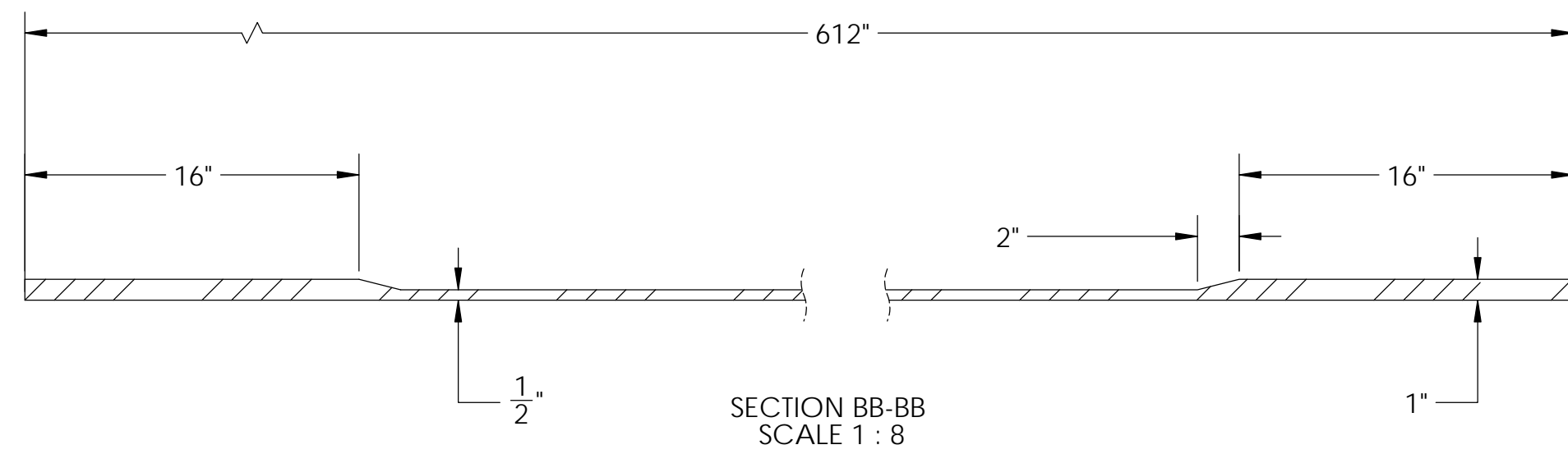
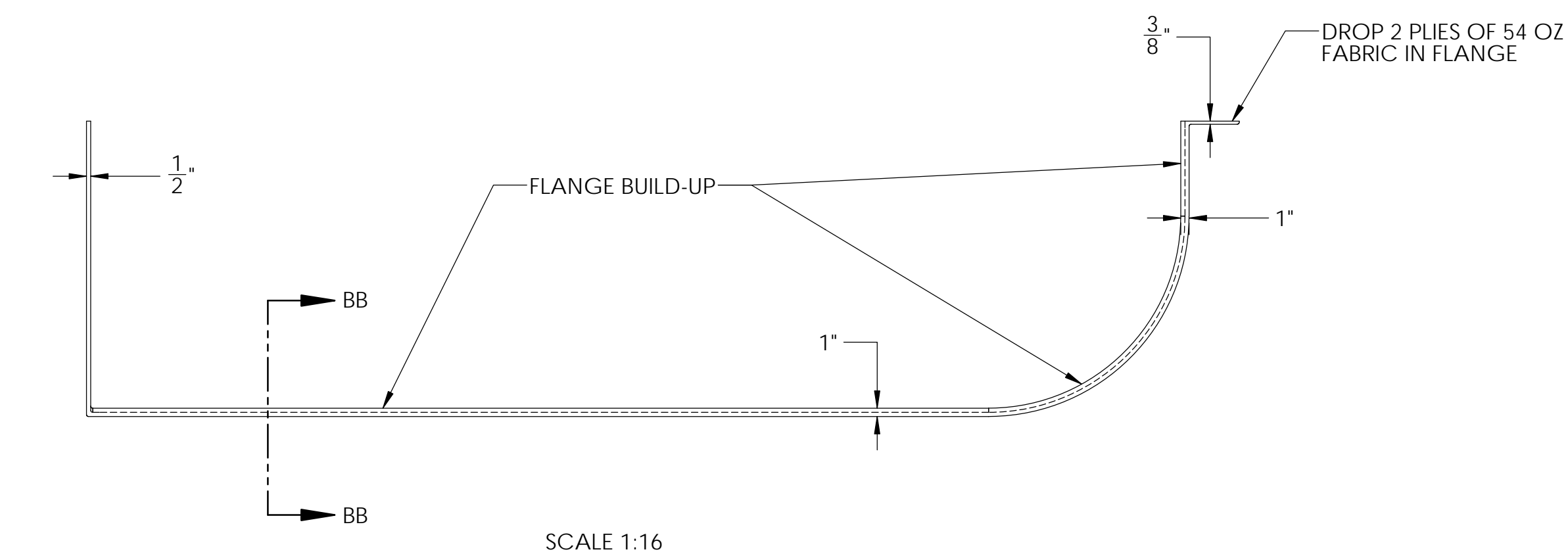
	
DATE	6/25/14
DESCRIPTION	ADDED GRIT BLASTING, C-VEIL JOINT AND FINAL COAT NOTE
REV	1
SEAL	
DIMENSIONS ARE IN INCHES TOLERANCES: +0, -1/16" FRACTIONAL + ANGULAR: MACH + TWO PLACE DECIMAL + THREE PLACE DECIMAL +	
DRAWN BY	DATE
ML	6/4/14
CHKD BY	DATE
JM	6/4/14
PROJECT	BROOKFIELD FRP PONTOONS
CUSTOMER	MILLER CONST. / VTRANS
SHEET	GENERAL NOTES
WEIGHT: N/A	
DESCRIPTION: FABRICATION	
SCALE 1 : 64	
WO NO. 8420	
CONTRACT NO. 9185	
DWG NO. 8420-6	
SHEET 1 OF 16	
PONTOON	PART NO.
N/A	N/A




 KENWAY CORP.	
DATE	6/25/14
DESCRIPTION	ADDED SECTION AH-AH
REV	1
SEAL	
DIMENSIONS ARE IN INCHES TOLERANCES: +0, -1/16" FRACTIONAL + ANGULAR: MACH + BEND + TWO PLACE DECIMAL + THREE PLACE DECIMAL +	
DRAWN BY	ML
DATE	6/4/14
CHKD BY	JM
DATE	6/4/14
PROJECT	BROOKFIELD FRP PONTOONS
CUSTOMER	MILLER CONST. / VTRANS
SHEET	HULLS 3-8 DIMENSIONS
WEIGHT: 4,205 lb	
DESCRIPTION: FABRICATION	
SCALE	1 : 48
WO NO.	8420
CONTRACT NO.	9185
DWG NO.	8420-6
SHEET	2 OF 16
PONTOON	3-8
PART NO.	1

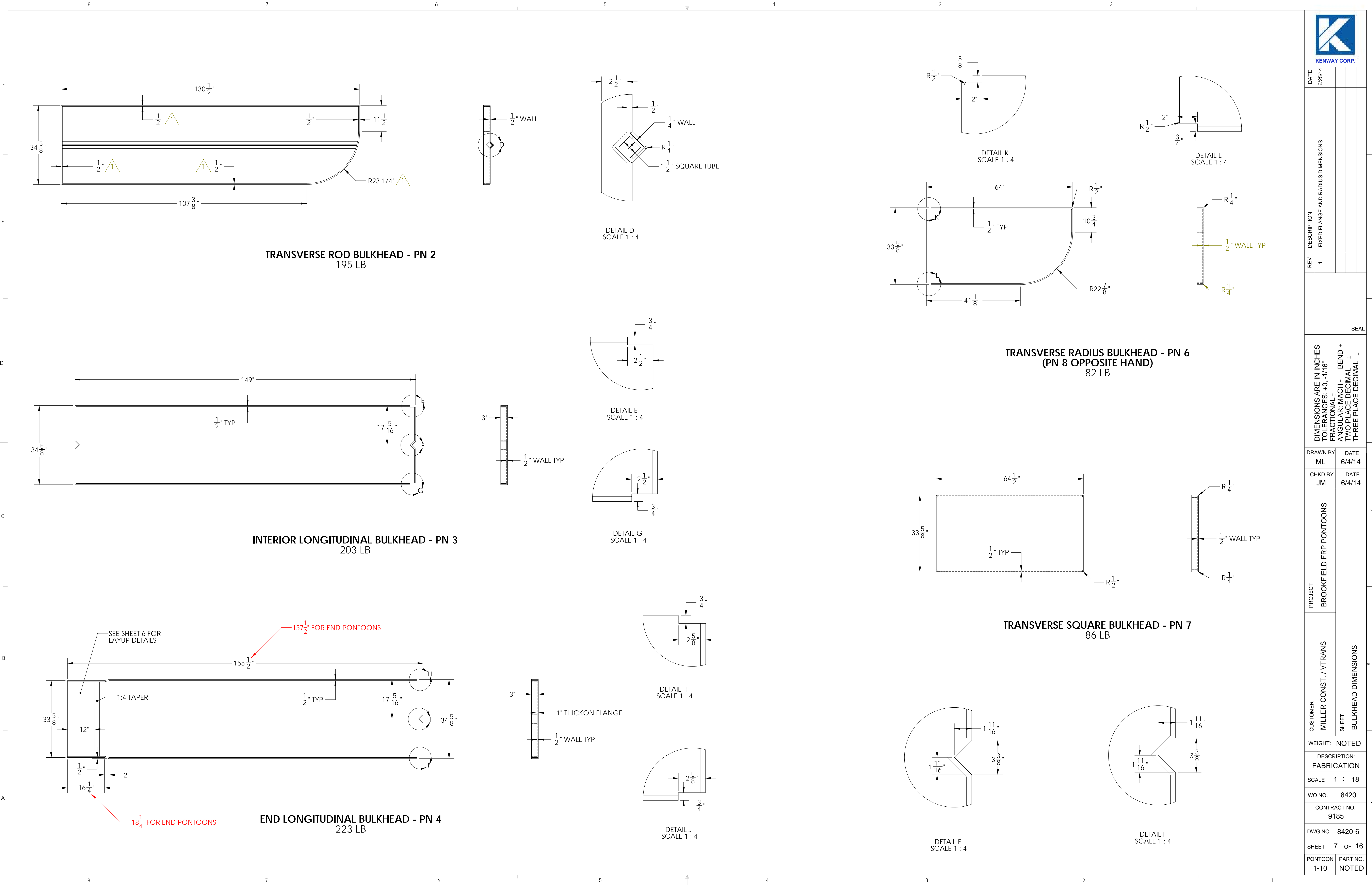


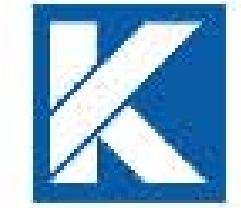
			
DATE:		6/26/14	
REV	DESCRIPTION		
1	CHANGED NOTE ON REFERENCE LINES ADDED 2" OVERLAP ON ALL 54 OZ PLIES		
1			
SEAL			
DIMENSIONS ARE IN INCHES TOLERANCES: +0, -1/16" FRACTIONAL: + ANGULAR: MACH ± TWO PLACE DECIMAL ± THREE PLACE DECIMAL ±			
DRAWN BY ML		DATE 6/4/14	
CHKD BY JM		DATE 6/4/14	
PROJECT BROOKFIELD FRP PONTOONS	HULLS 3-8 LAYUP SCHEDULE		
CUSTOMER MILLER CONST. / VTRANS			
SHEET			
WEIGHT: 4,205 lb			
DESCRIPTION: FABRICATION			
SCALE 1 : 72			
WO NO. 8420			
CONTRACT NO. 9185			
DWG NO. 8420-6			
SHEET 3 OF 16			
PONTOON 3-8	PART NO. 1		

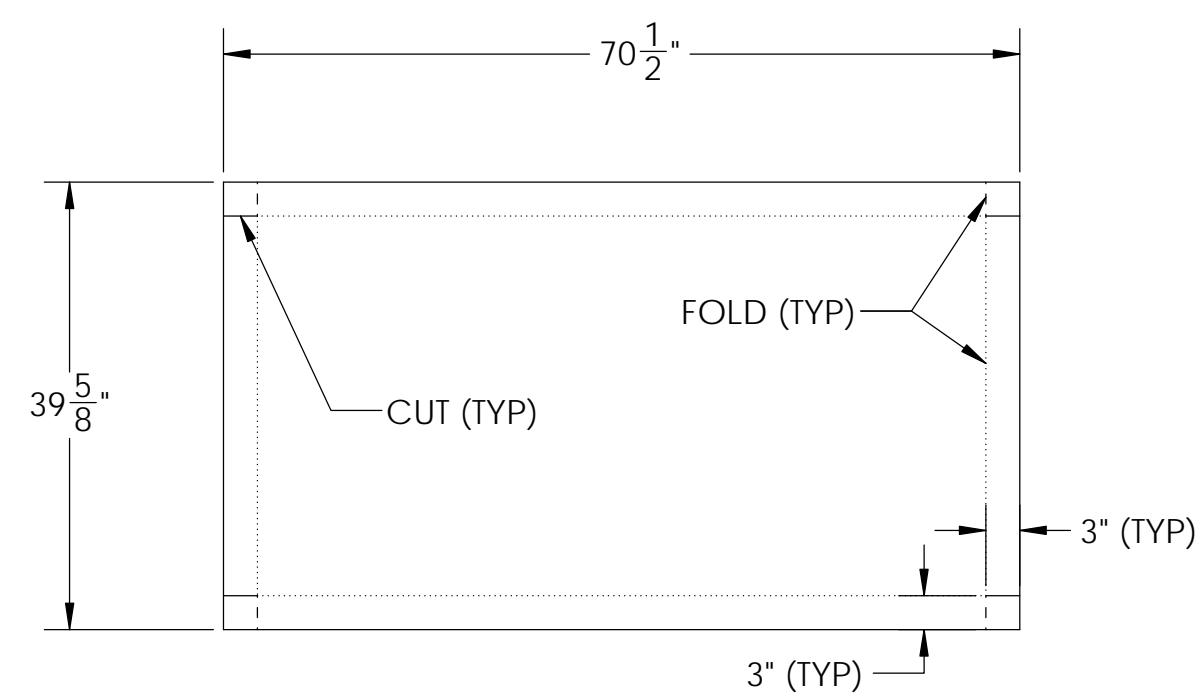


INFUSION SET-UP DETAILS

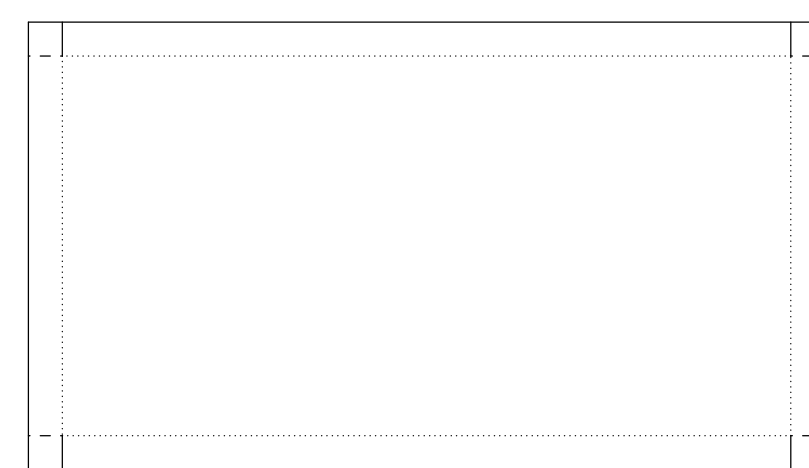
 KENWAY CORP.		6/25/14				
1	ADDED BOLT AREA LAMINATE NOTE					
SEAL						
BROOKFIELD FRP PONTOONS MILLER CONST. / VTRANS		DRAWN BY ML	DIMENSIONS ARE IN INCHES TOLERANCES: +0, -1/16"	FRACTIONAL + ANGULAR: MACH ± BEND TWO PLACE DECIMAL THREE PLACE DECIMAL	DATE 6/4/14	
SHEET HULL INFUSION LAYOUT AND DETAILS		CHKD BY JM	DATE 6/4/14			
WEIGHT: N/A						
DESCRIPTION: FABRICATION						
SCALE 1 : 60						
IO NO. 8420						
CONTRACT NO. 9185						
DWG NO. 8420-6						
SHEET 6 OF 16						
PART NO. 1-10						
1						



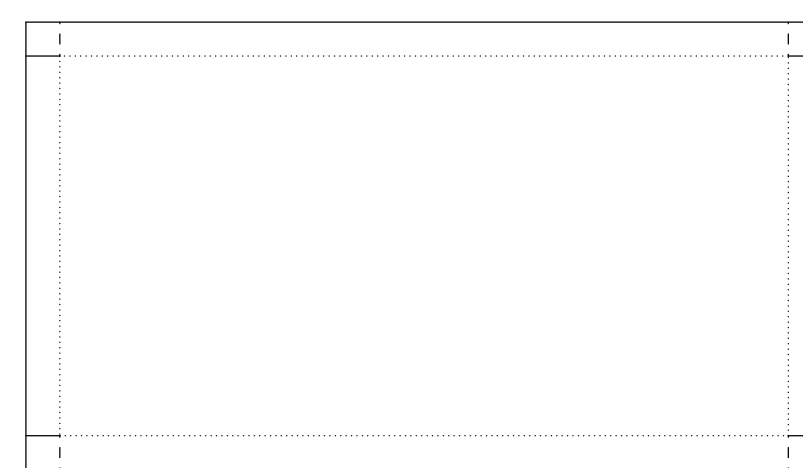
 KENWAY CORP.	
DATE	6/25/14
DESCRIPTION	FIXED FLANGE AND RADIUS DIMENSIONS
REV	1
SEAL	
DIMENSIONS ARE IN INCHES TOLERANCES: +0, -1/16" FRACTIONAL: + ANGULAR: MACH + TWO PLACE DECIMAL + THREE PLACE DECIMAL +	
DRAWN BY	ML
DATE	6/4/14
CHKD BY	JM
DATE	6/4/14
PROJECT	BROOKFIELD FRP PONTOONS
CUSTOMER	MILLER CONST. / VTRANS
SHEET	BULKHEAD DIMENSIONS
WEIGHT:	NOTED
DESCRIPTION:	FABRICATION
SCALE	1 : 18
WO NO.	8420
CONTRACT NO.	9185
DWG NO.	8420-6
SHEET	7 OF 16
PONTOON	1-10
PART NO.	NOTED



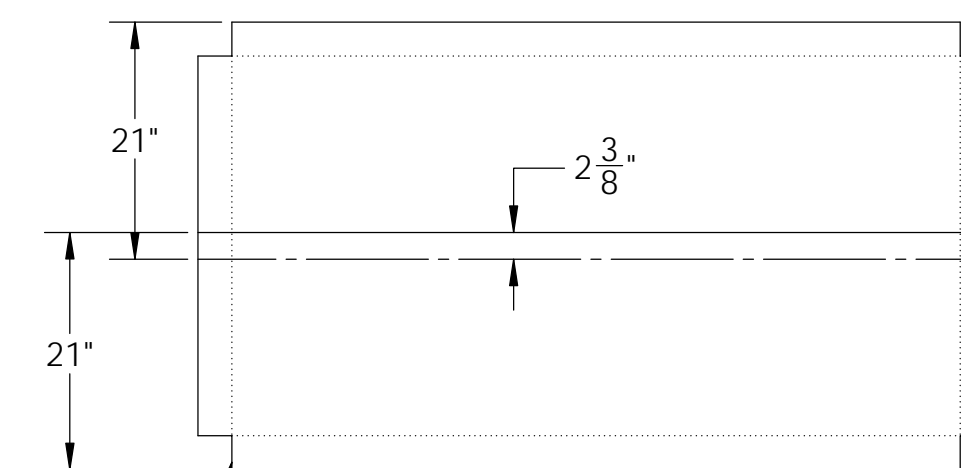
PLY # 1 - C-VEIL



PLY # 2 - 4008



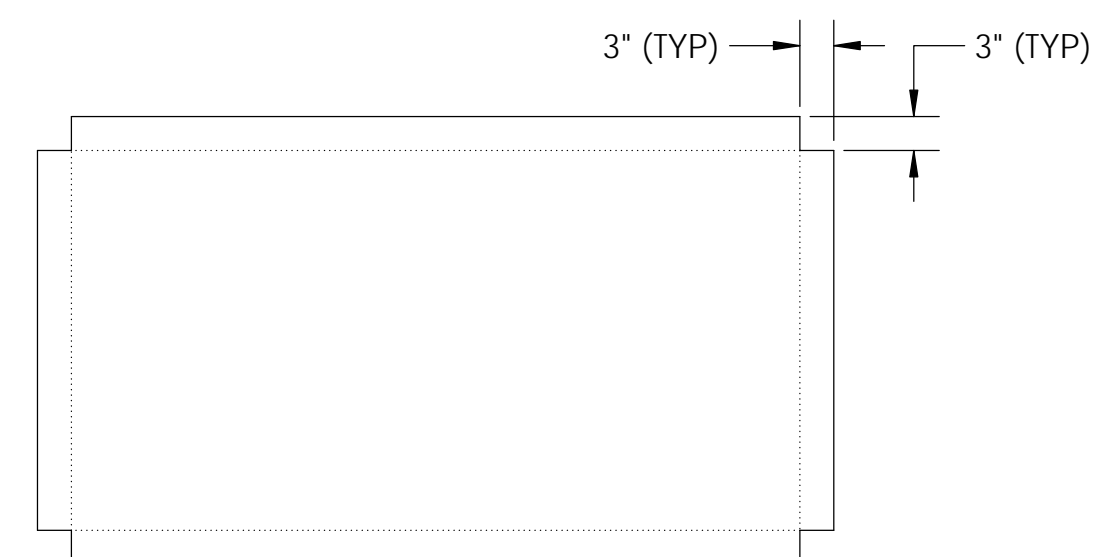
PLY # 3 - 54 oz



1 PLY # 4 - 54 oz



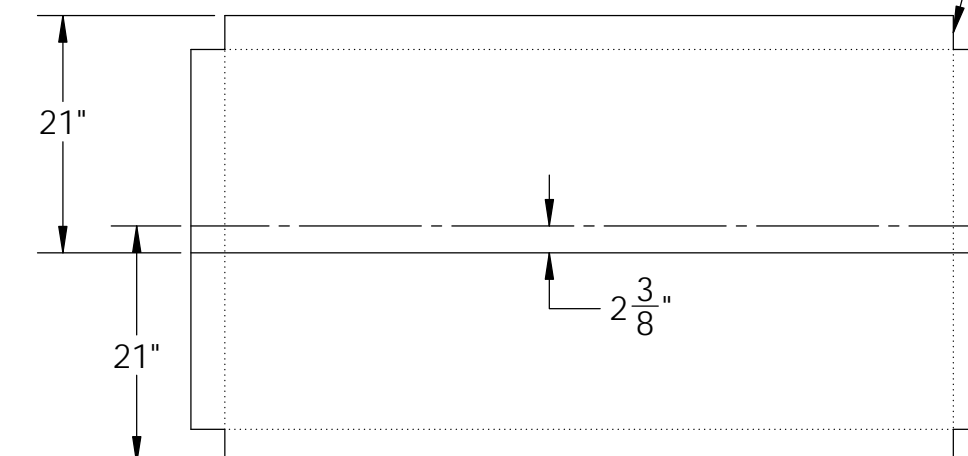
PLY # 5 - 54 oz



PLY # 6 - 54 oz



PLY # 7 - 54 oz



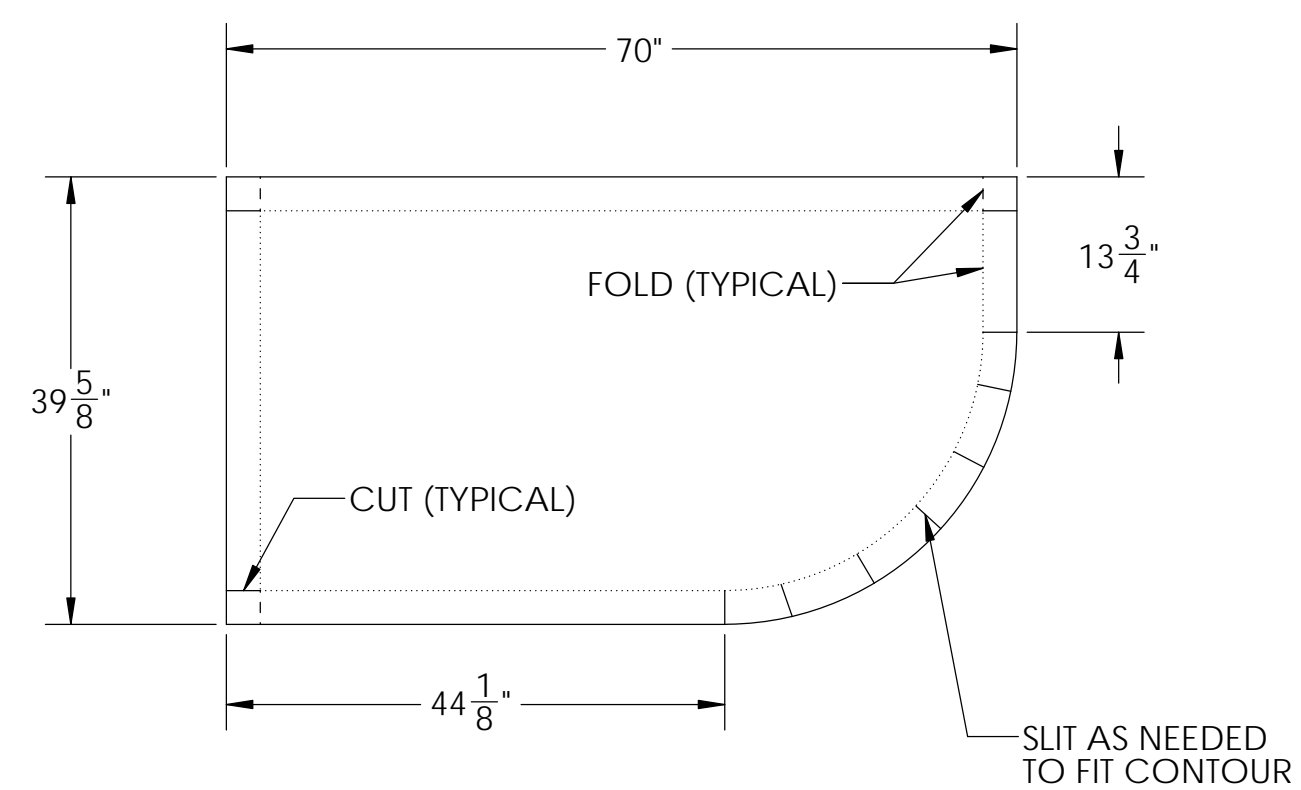
1 PLY #8 - 54 oz



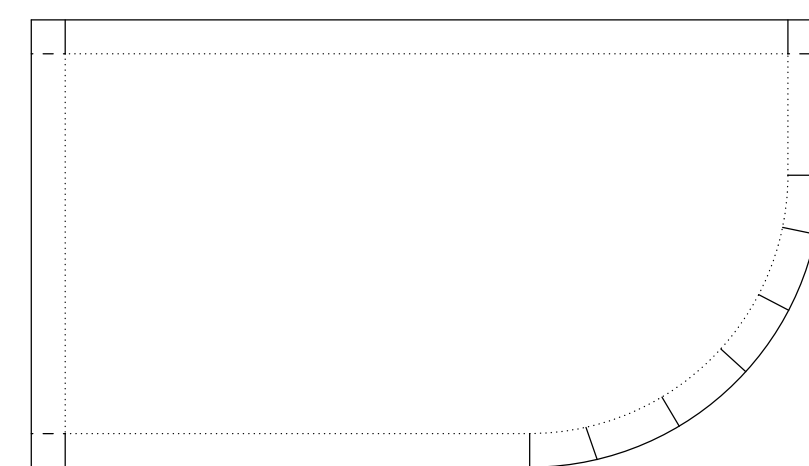
PLY # 9 - 54 oz



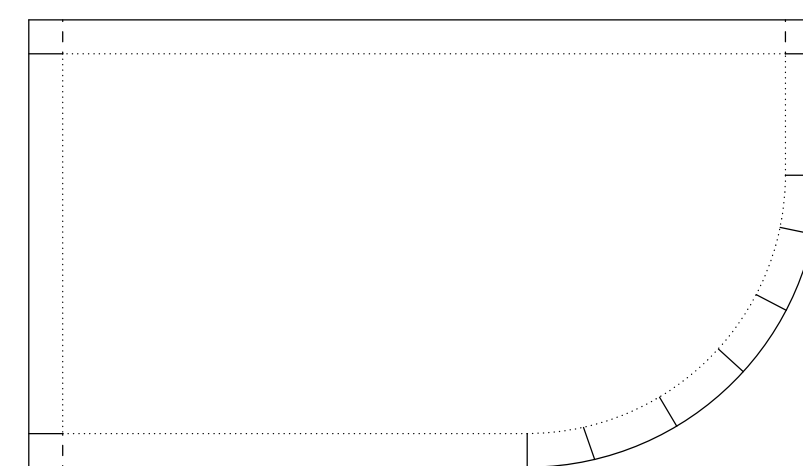
PLY # 10 - 4008



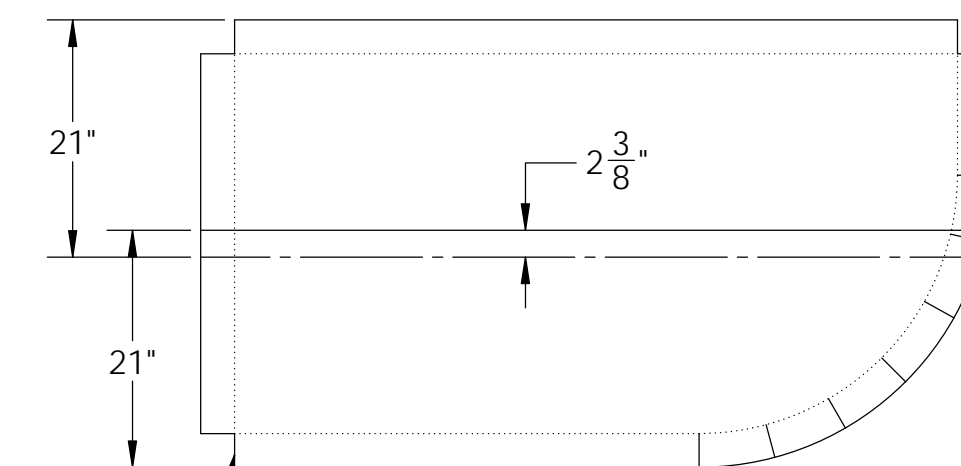
PLY # 1 - C-VEIL



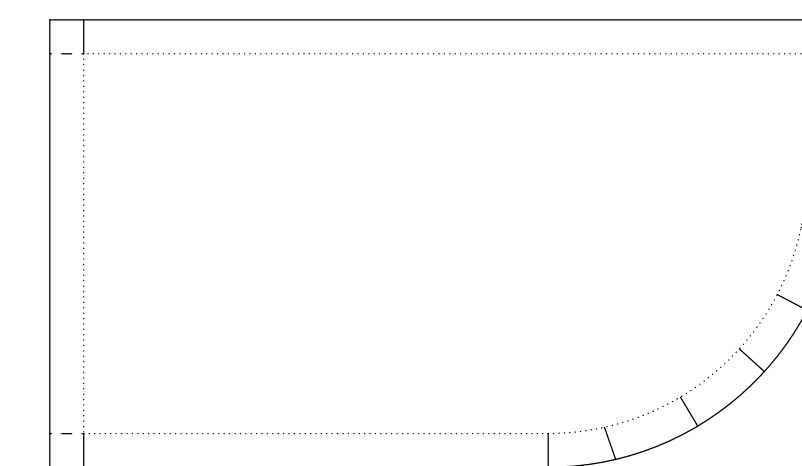
PLY # 2 - 4008



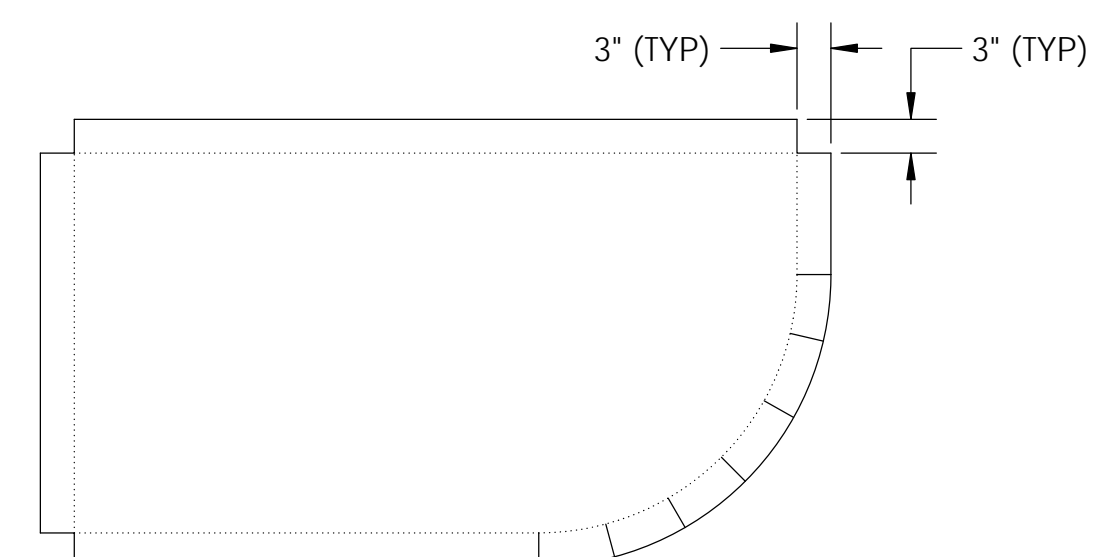
PLY # 3 - 54 oz



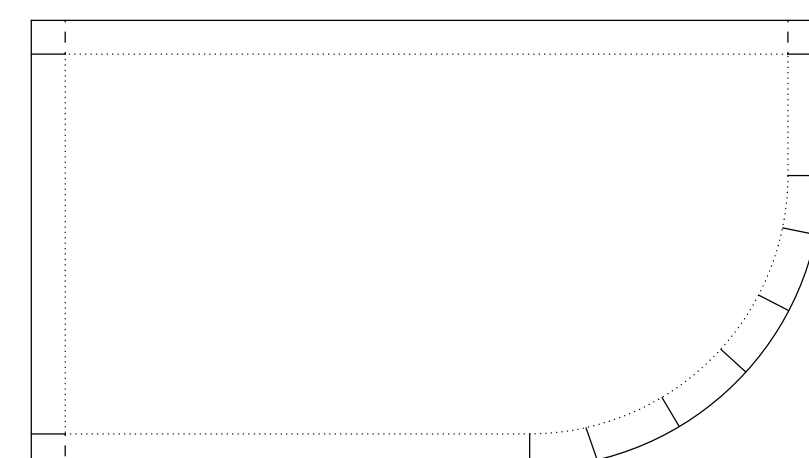
1 PLY # 4 - 54 oz



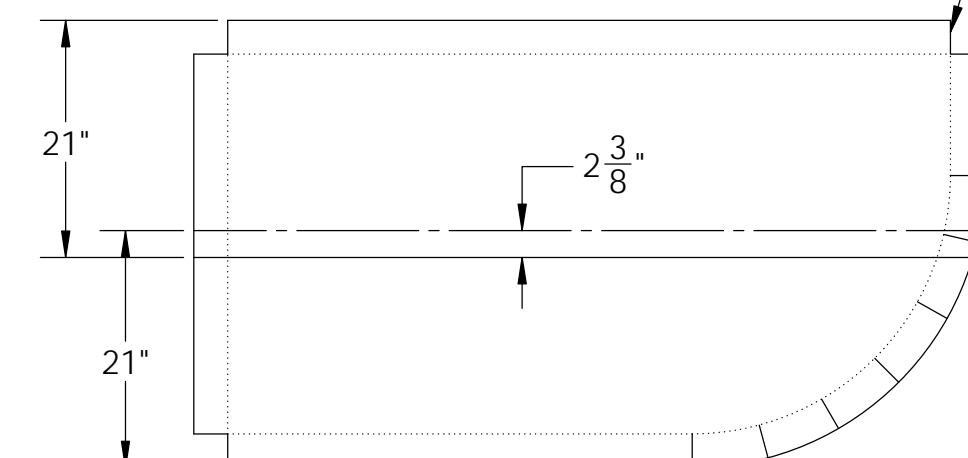
PLY # 5 - 54 oz



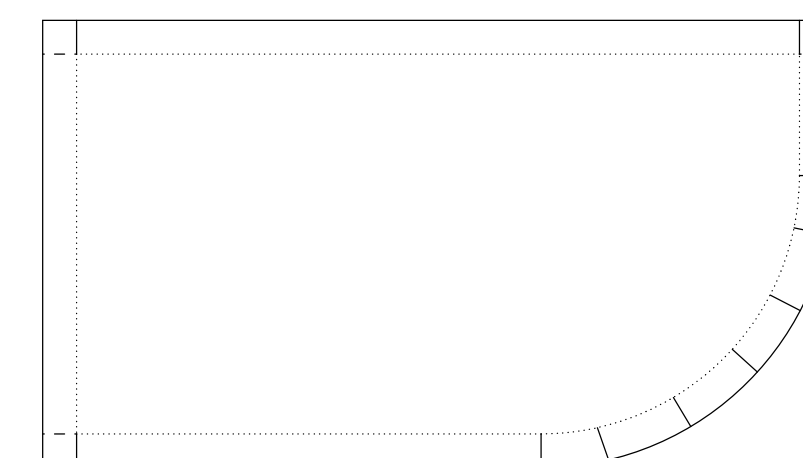
PLY # 6 - 54 oz



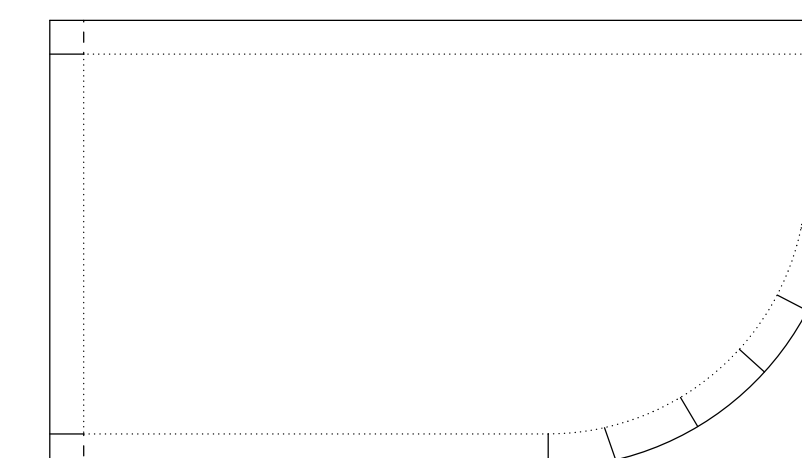
PLY # 7 - 54 oz



1 PLY #8 - 54 oz



PLY # 9 - 54 oz



PLY # 10 - 4008



REV	DESCRIPTION	DATE
1	ADDED CORNER CUT OUT NOTE	6/26/14
1	ADDED 2" OVERLAP ON NOTED 54 OZ PLIES	6/26/14

SE

DIMENSIONS ARE IN INCHES
TOLERANCES: +0, -1/16"
FRACTIONAL ±
ANGULAR: MACH ± BEND ±
TWO PLACE DECIMAL +
THREE PLACE DECIMAL +

DRAWN BY ML	DATE 6/4/14
CHKD BY JM	DATE 6/4/14

CUSTOMER	PROJECT
MILLER CONST. / VTRANS	BROOKFIELD FRP PONTOONS
SHEET	
END BULKHEADS LAYUP SCHEDULE	

WEIGHT: N/A	
DESCRIPTION: FABRICATION	
SCALE 1 : 18	
WO NO. 8420	
CONTRACT NO. 9185	
DWG NO. 8420-6	
SHEET 8 OF 1	
PONTOON 1-10	PART N 6-8



REV	DESCRIPTION	DATE
1	ADDED FABRIC FOLD, FRP TUBE, AND CORNER CUT NOTES	6/25/14
1	ADDED 2" OVERLAP ON NOTED 54 OZ PLIES	6/26/14

SEA

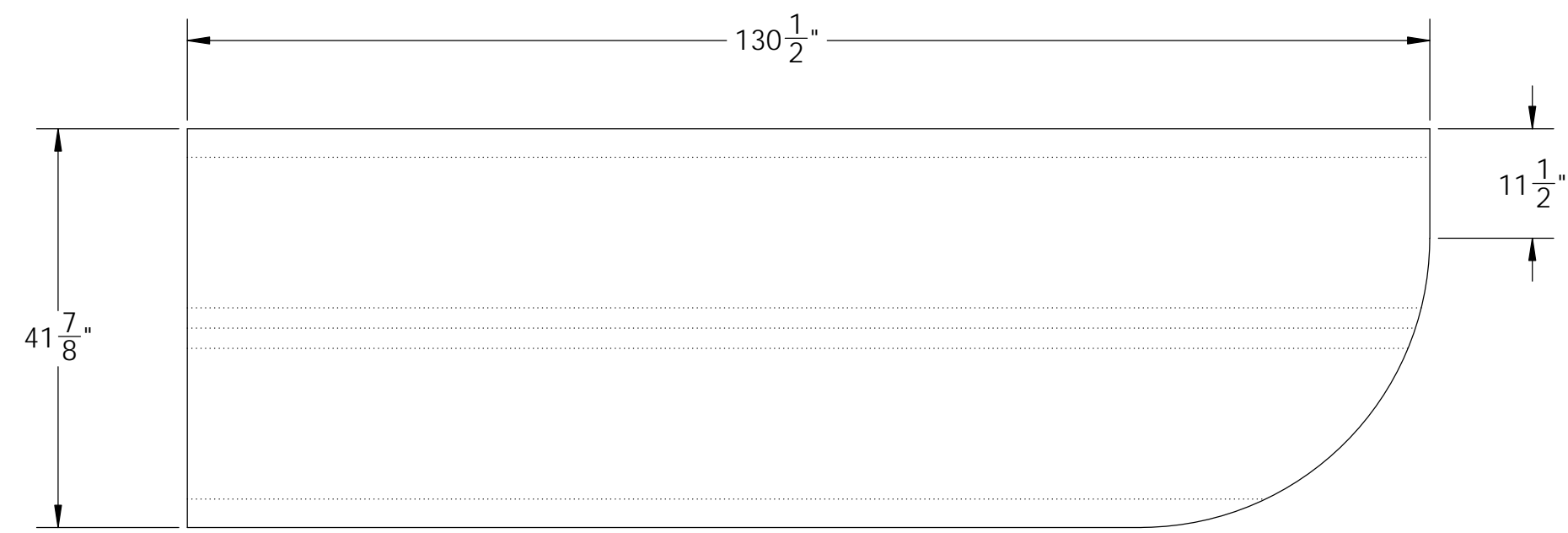
DIMENSIONS ARE IN INCHES
TOLERANCES: +0, -1/16"
FRACTIONAL ±
ANGULAR: MACH ± BEND ±
TWO PLACE DECIMAL ±
THREE PLACE DECIMAL ±

DRAWN BY ML	DATE 6/4/14
CHKD BY JM	DATE 6/4/14

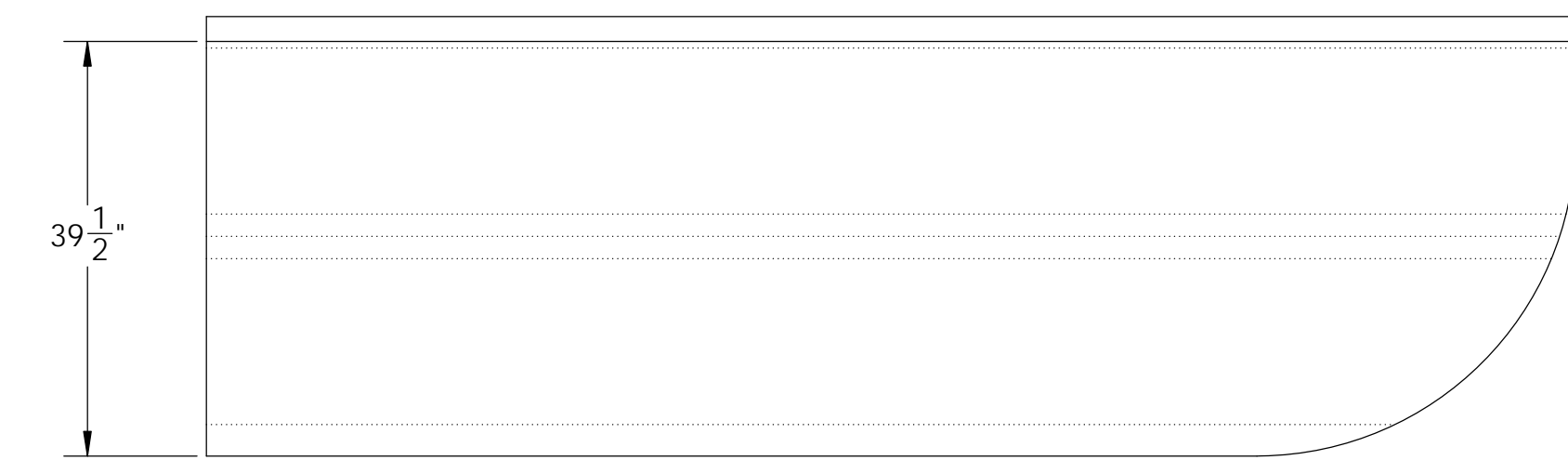
PROJECT	UP SCHEDULE
BROOKFIELD FRP PONTOONS	

CUSTOMER
MILLER CONST. / VTRANS
SHEET
TRANSVERSE ROD BULKHEAD LAY

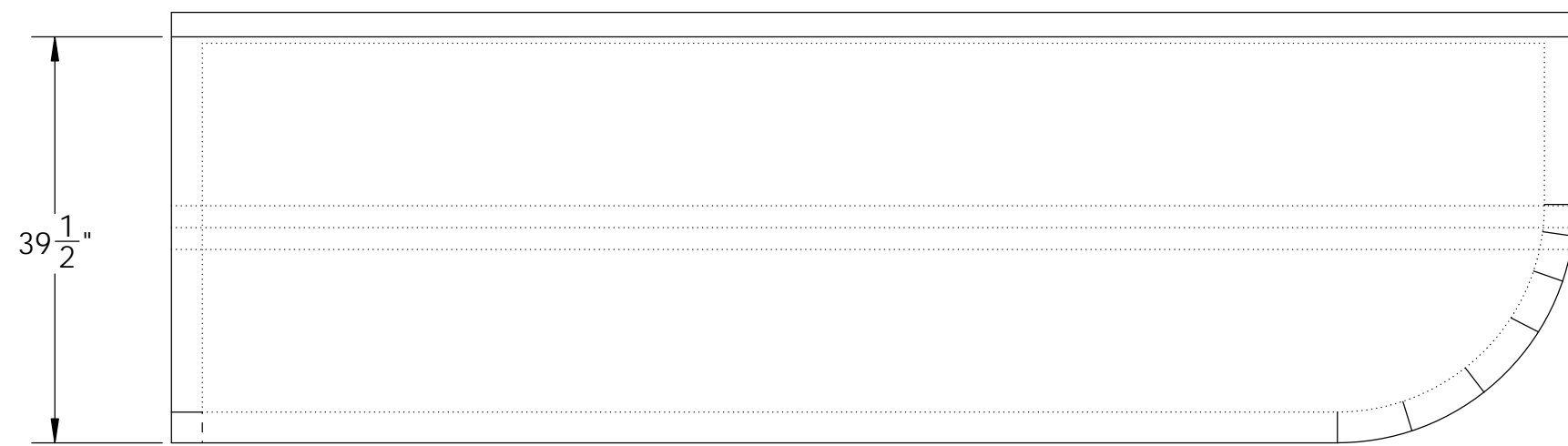
WEIGHT: 195 LB	
DESCRIPTION: FABRICATION	
SCALE 1 : 18	
WO NO. 8420	
CONTRACT NO. 9185	
DWG NO. 8420-6	
SHEET 9 OF 16	
PONTOON 1-10	PART NO 2



PLY # 1 - C-VEIL



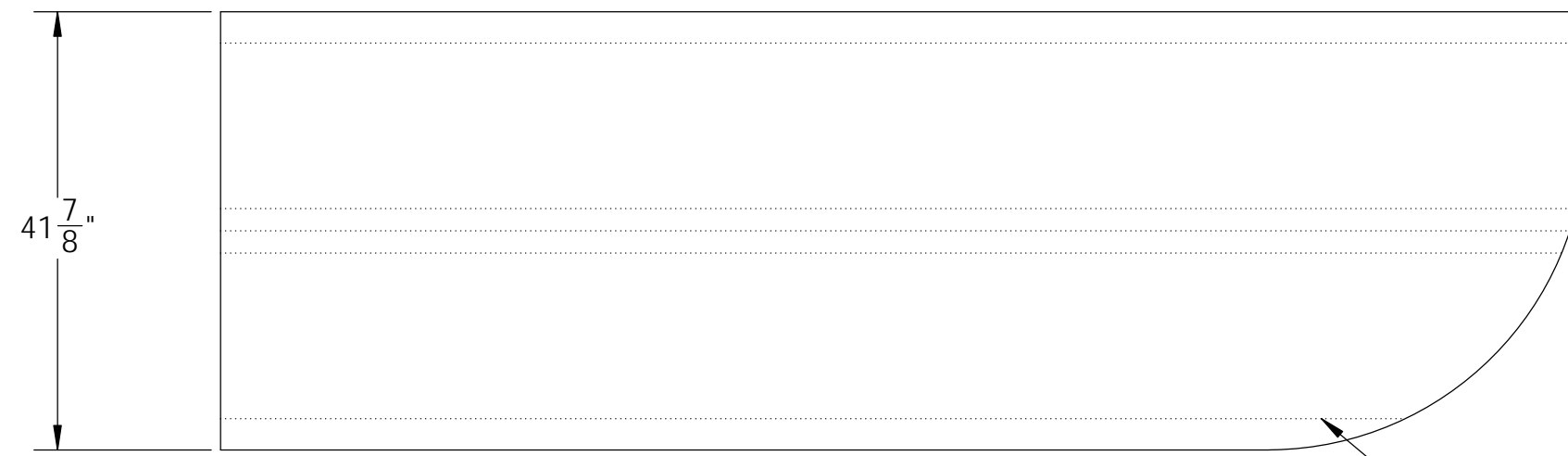
PLY # 4 - 54 oz



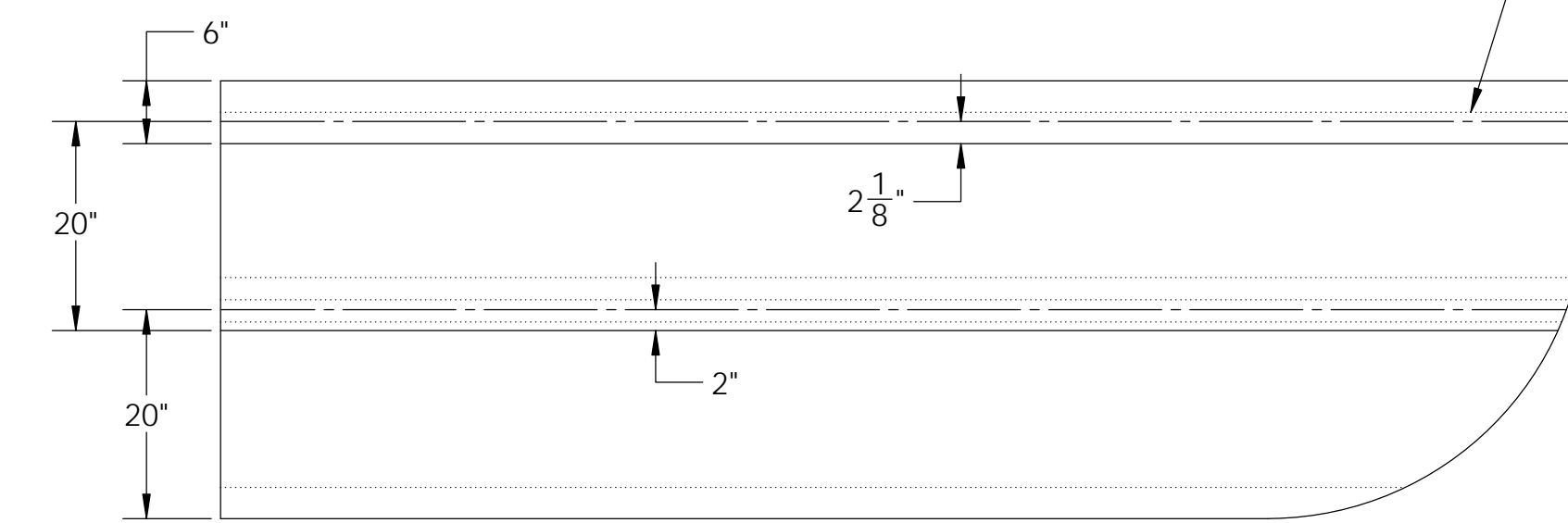
PLY # 7 - 54 oz




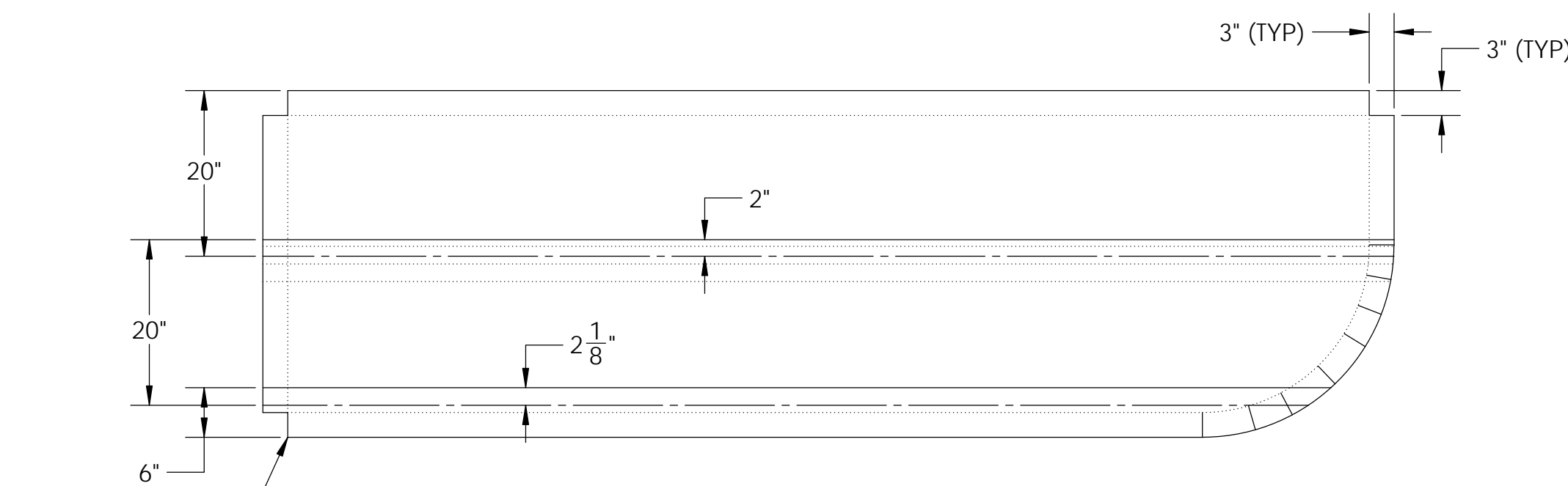
PLY # 10 - 4008



PLY # 2 - 4008

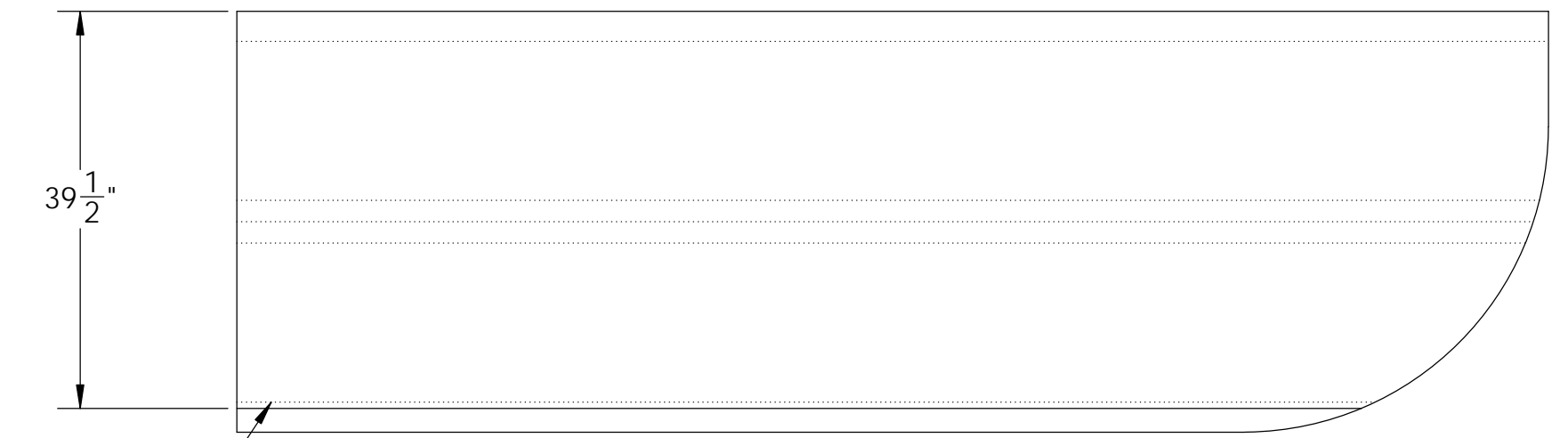


 PLY # 5 - 54 oz

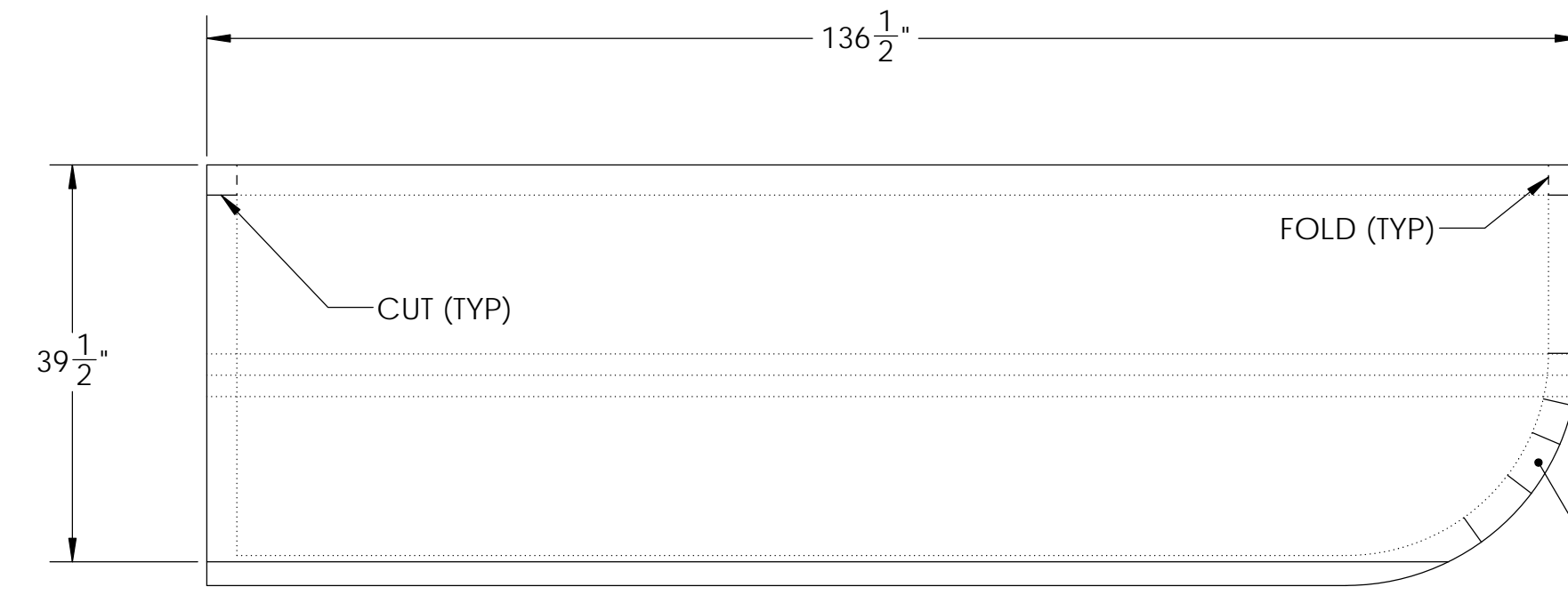


 **PLY #8 - 54 oz**

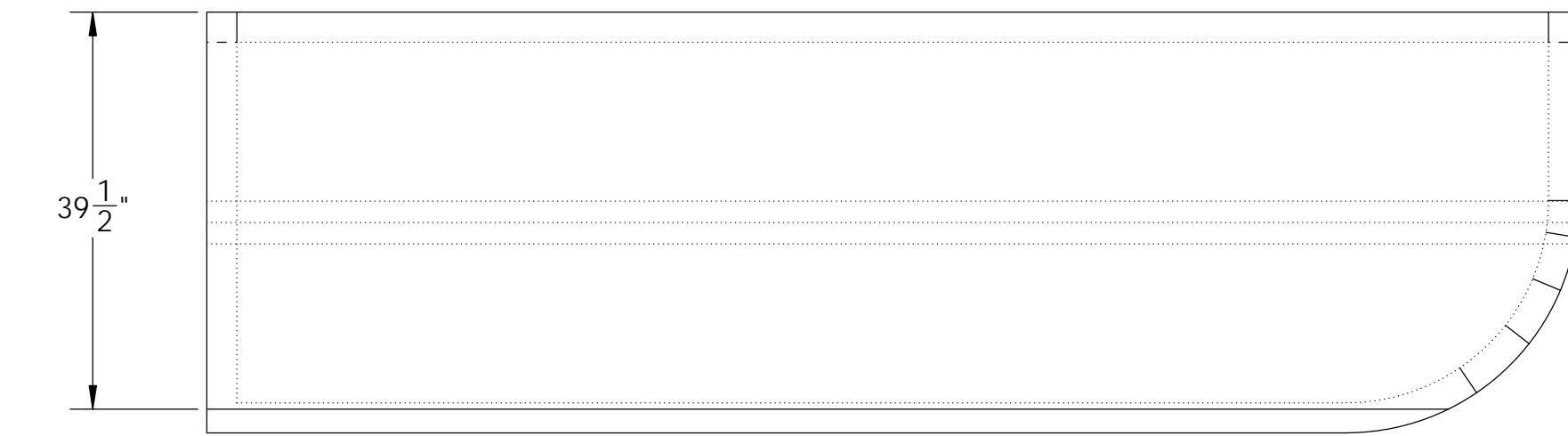
NOTE:
PLIES 1-5 BUTT UP TO
SHORT SIDE FLANGES



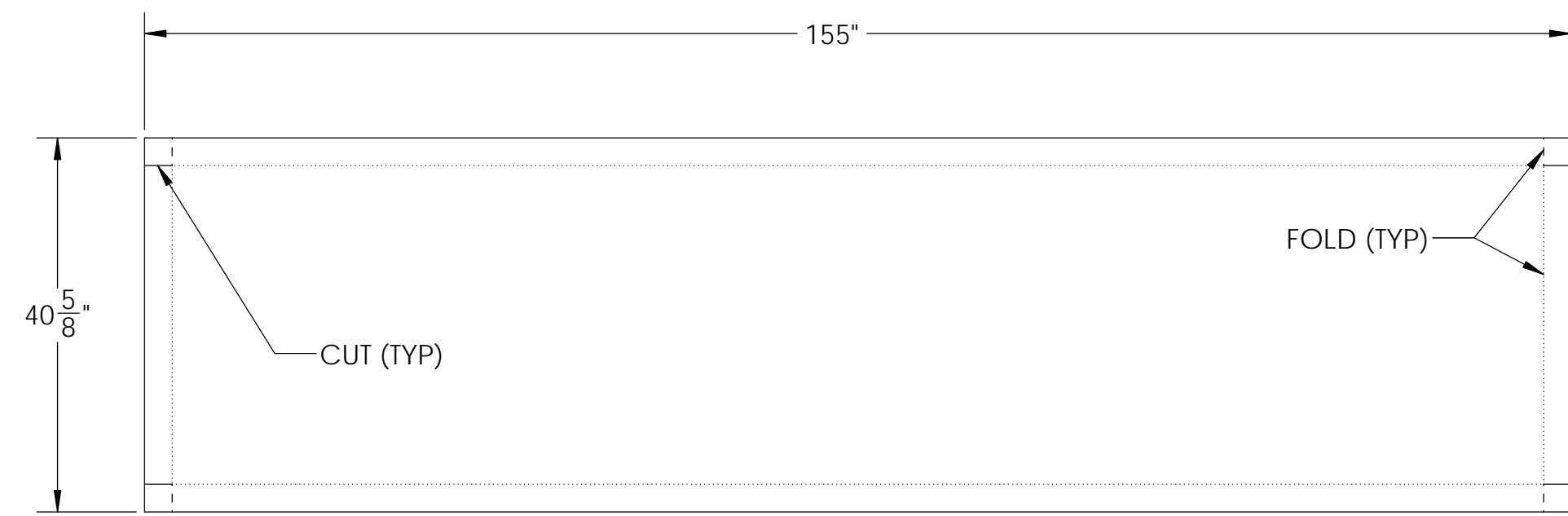
PLY # 3 - 54 oz



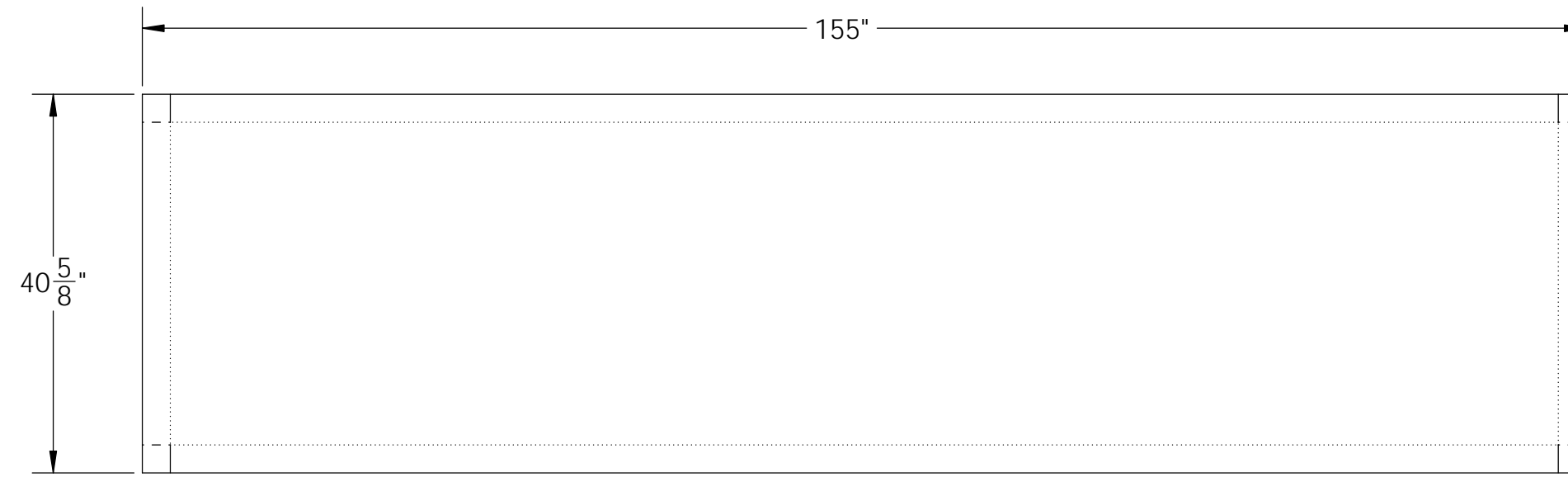
PLY # 6 - 54 oz



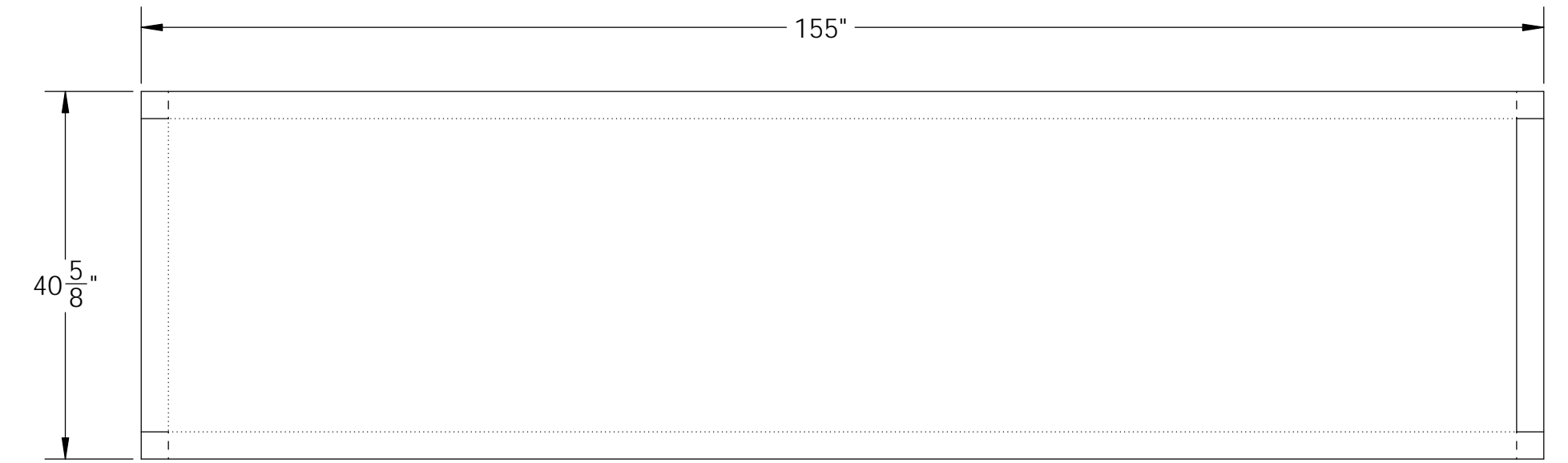
PLY # 9 - 54 oz



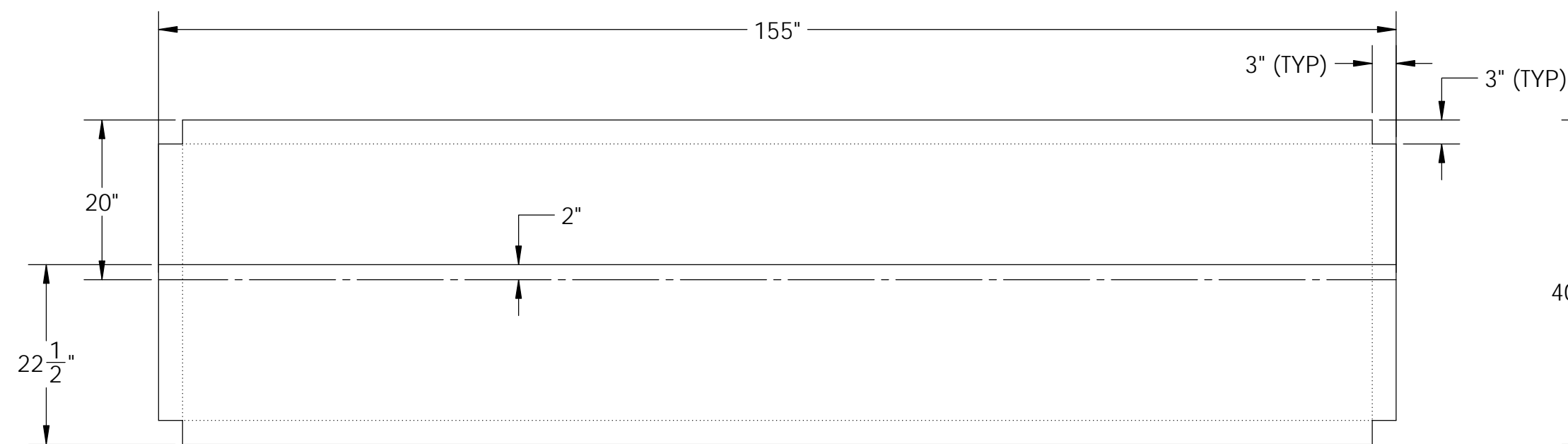
PLY # 1 - C-VEIL



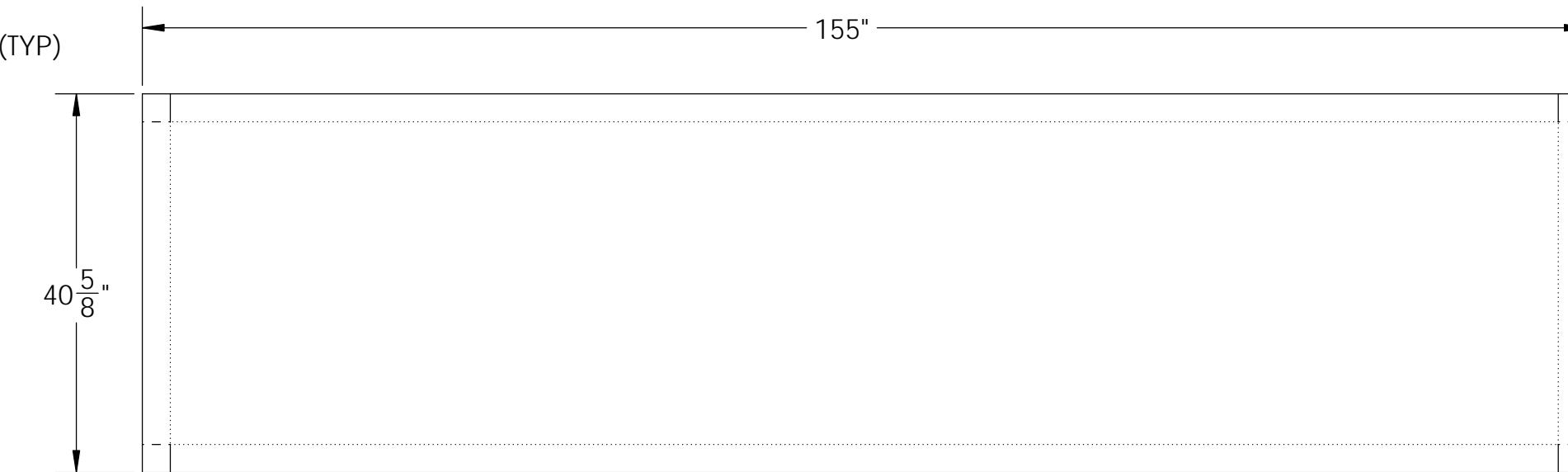
PLY # 2 - 4008



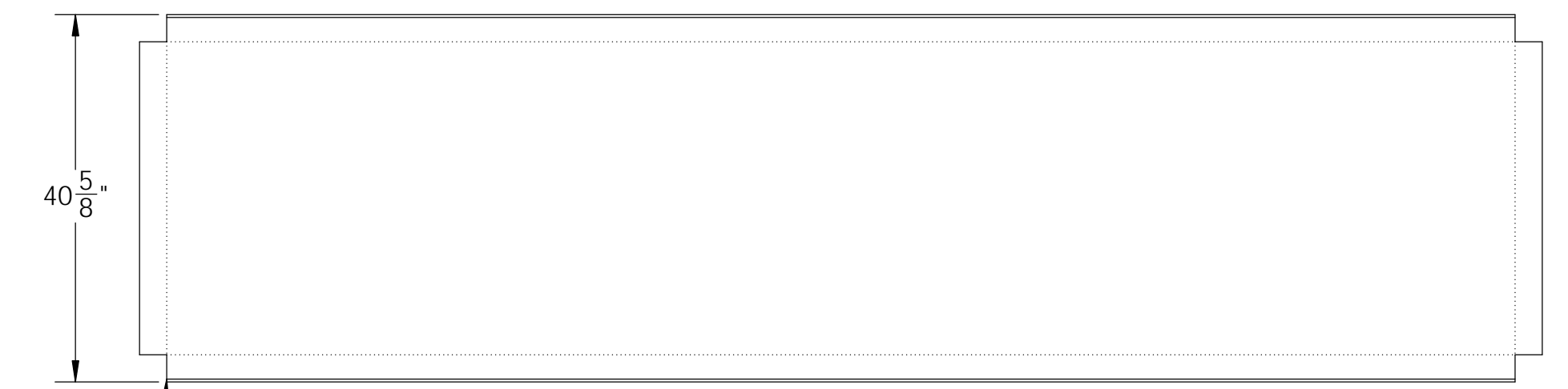
PLY # 3 - 54 oz



1 PLY # 4 - 54 oz

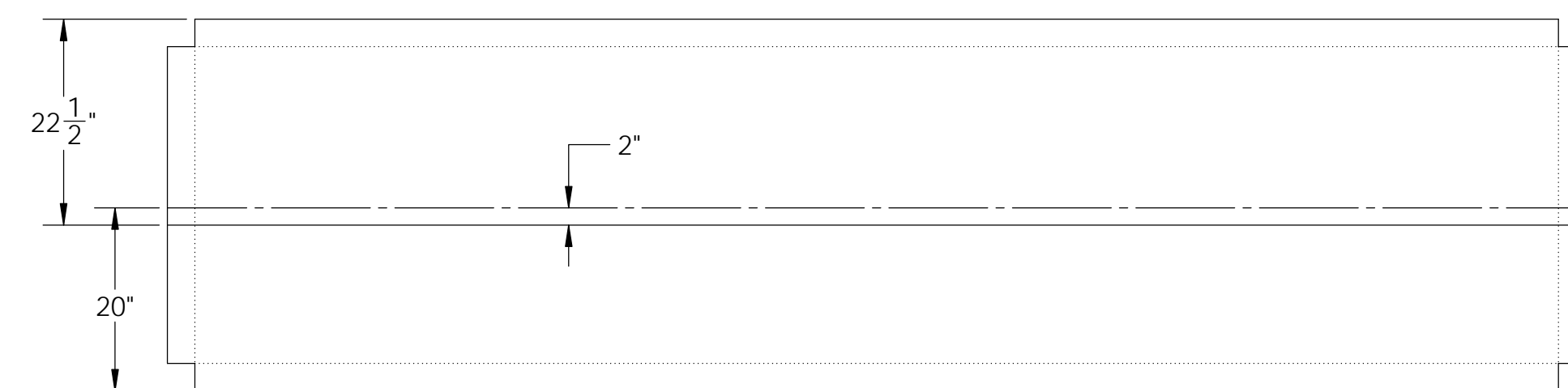


PLY # 5 - 54 oz

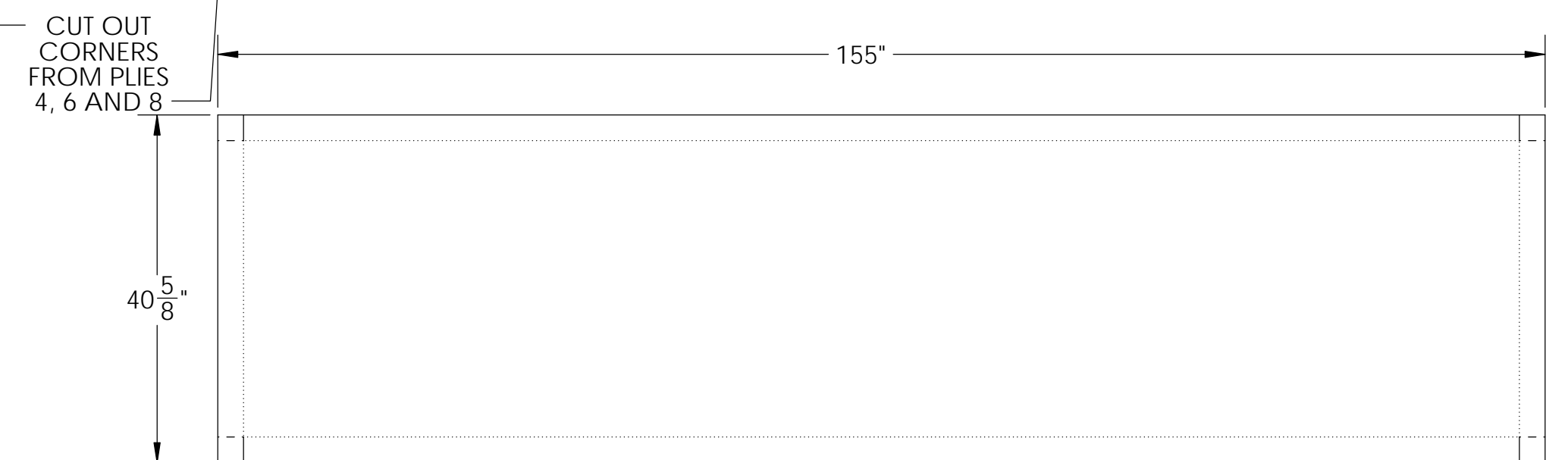


PLY # 6 - 54 oz

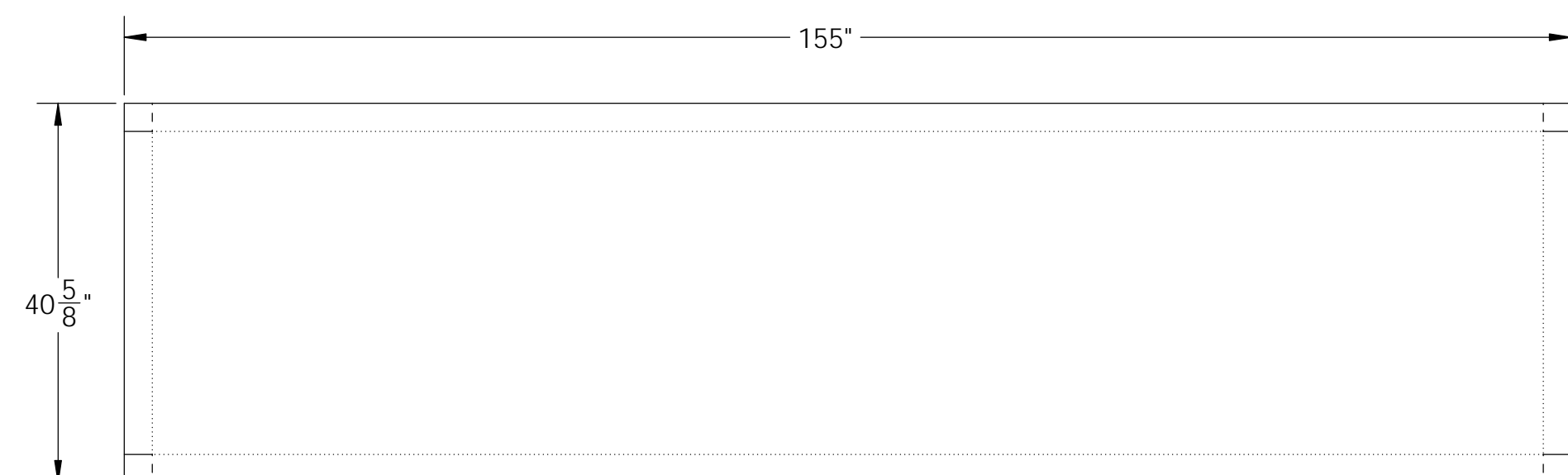
PLY # 7 - 54 oz



1 PLY #8 - 54 oz



PLY # 9 - 54 oz



PLY # 10 - 4008



REV	DESCRIPTION	DATE
1	ADDED CORNER CUT OUT NOTE	6/26/14
1	ADDED 2" OVERLAP ON NOTED 54 OZ PLIES	6/26/14

EAL

TOLERANCES: +0, -1/16"
FRACTIONAL ±
ANGULAR: MACH ± BEND ±
TWO PLACE DECIMAL ±
THREE PLACE DECIMAL ±

DRAWN BY ML	DATE 6/4/14
CHKD BY JM	DATE 6/4/14

CUSTOMER	PROJECT
MILLER CONST. / VTRANS	BROOKFIELD FRP PONTOONS
SHEET	
MIDDLE LONGITUDINAL BULKHEAD LAYUP SCHEDULE	

WEIGHT: 203 LB

DESCRIPTION:
FABRICATION

SCALE 1 : 18

NO NO. 8420

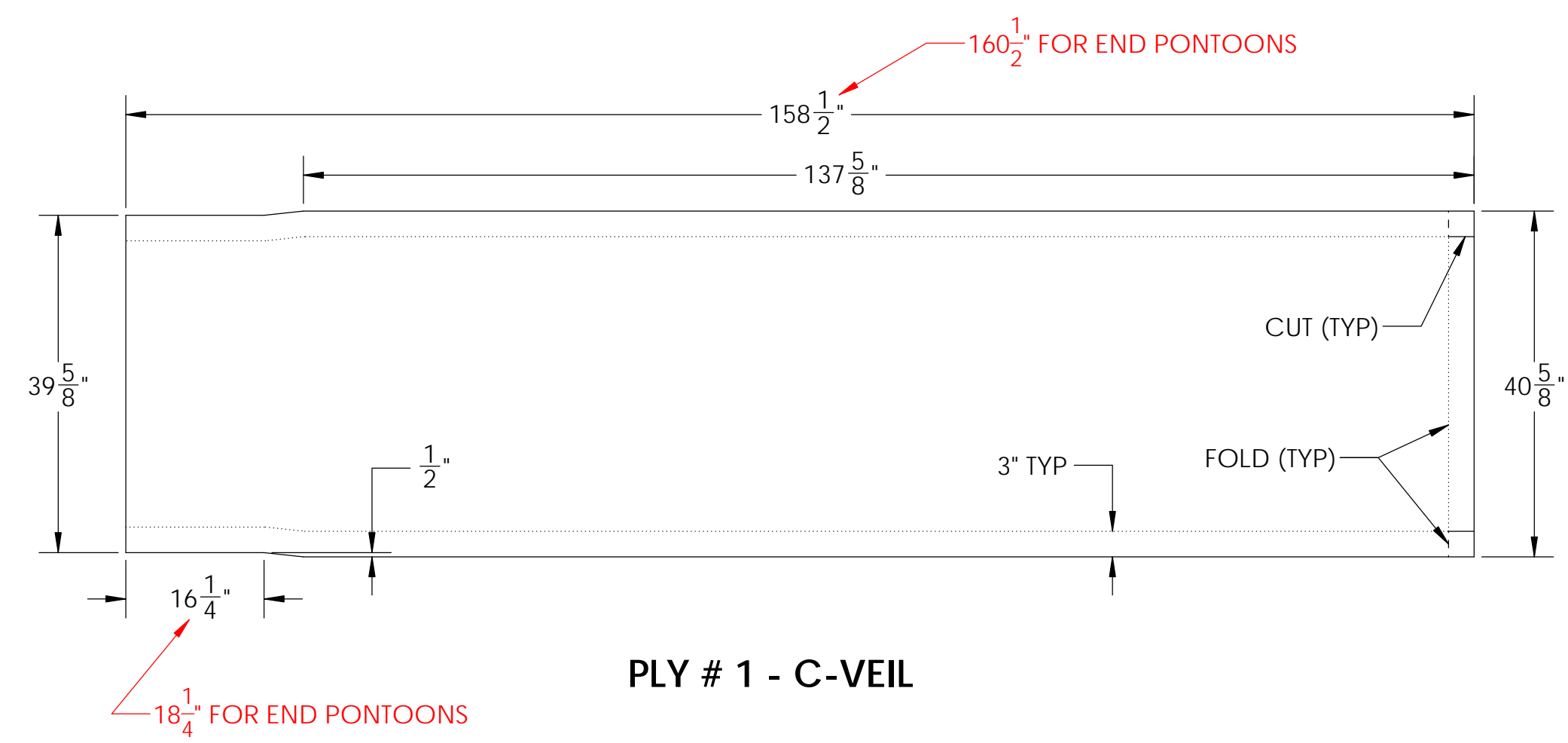
CONTRACT NO.
9185

DWG NO. 8420-6

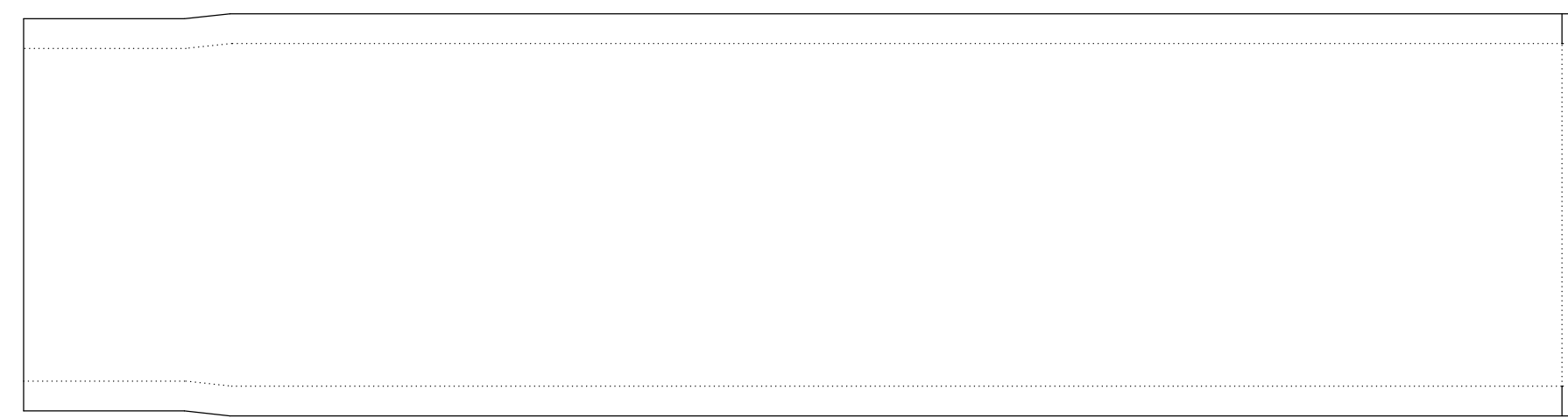
SHEET 10 OF 16

PONTOON	PART NO
---------	---------

1-10	3
------	---

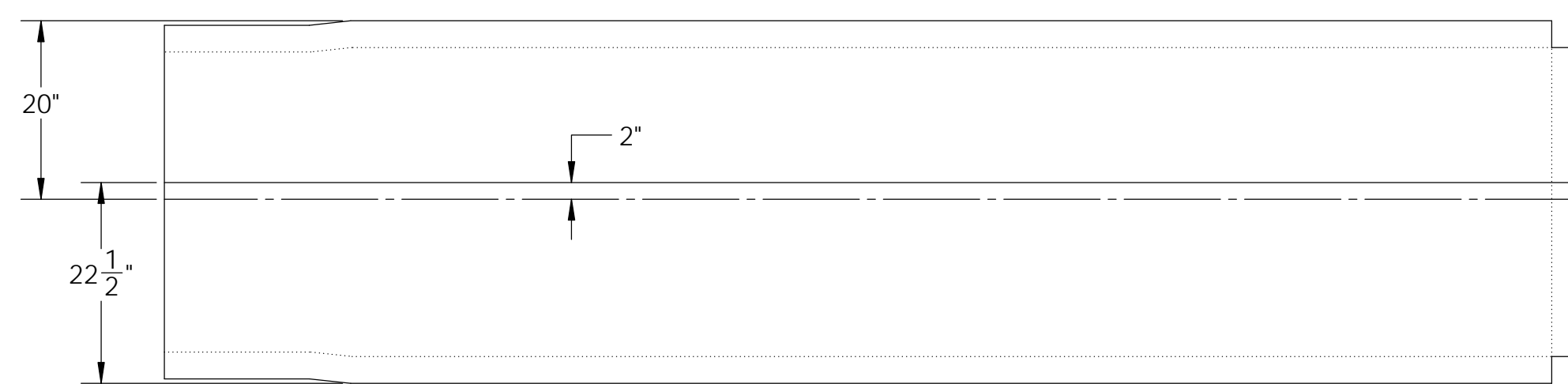


PLY # 1 - C-VEIL



PLY # 2 - 4008

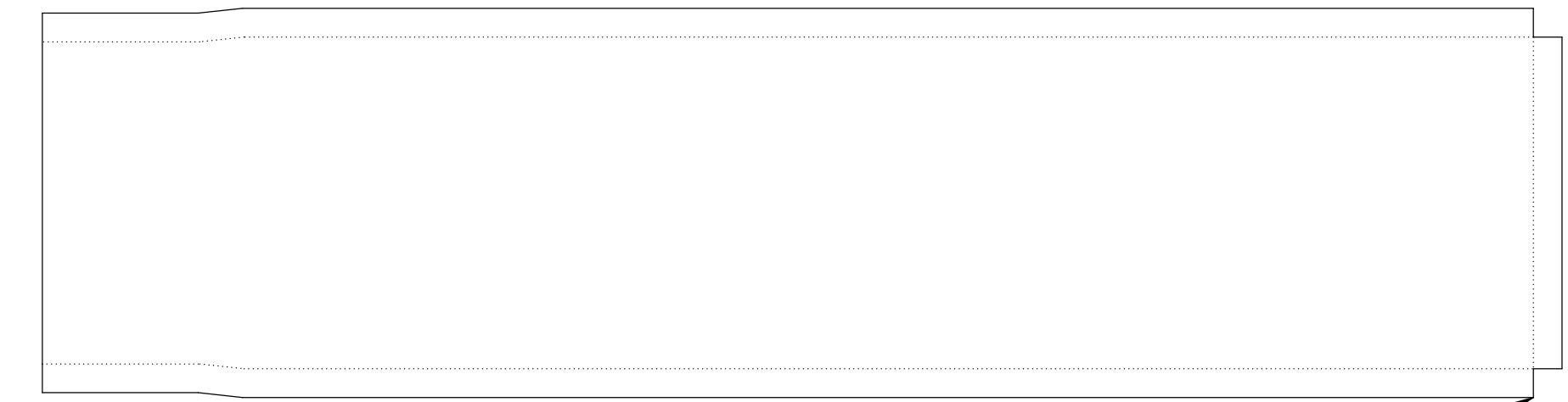
PLY # 3 - 54 oz



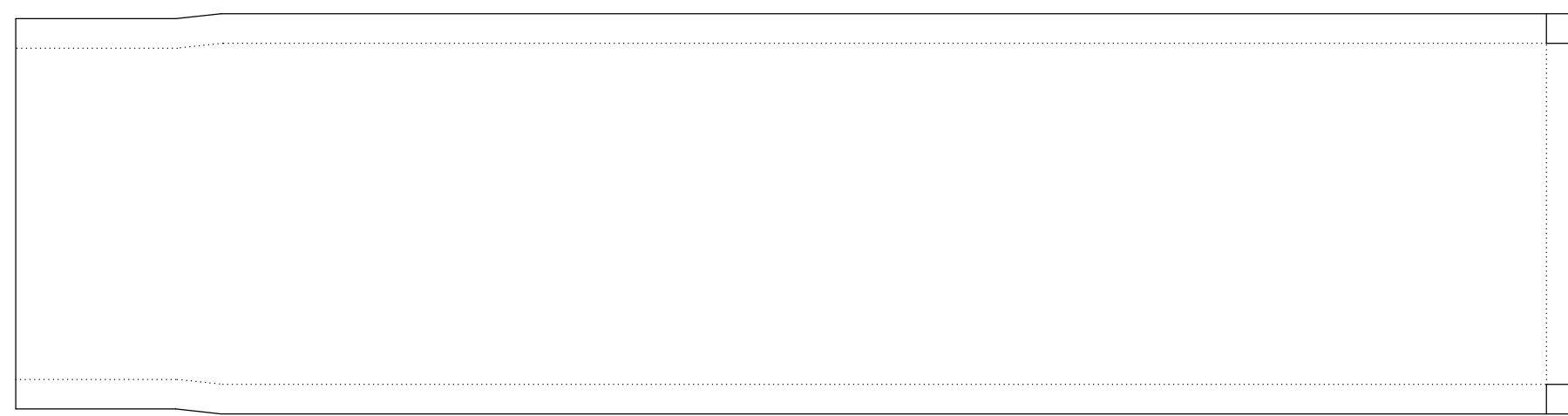
PLY # 4 - 54 oz



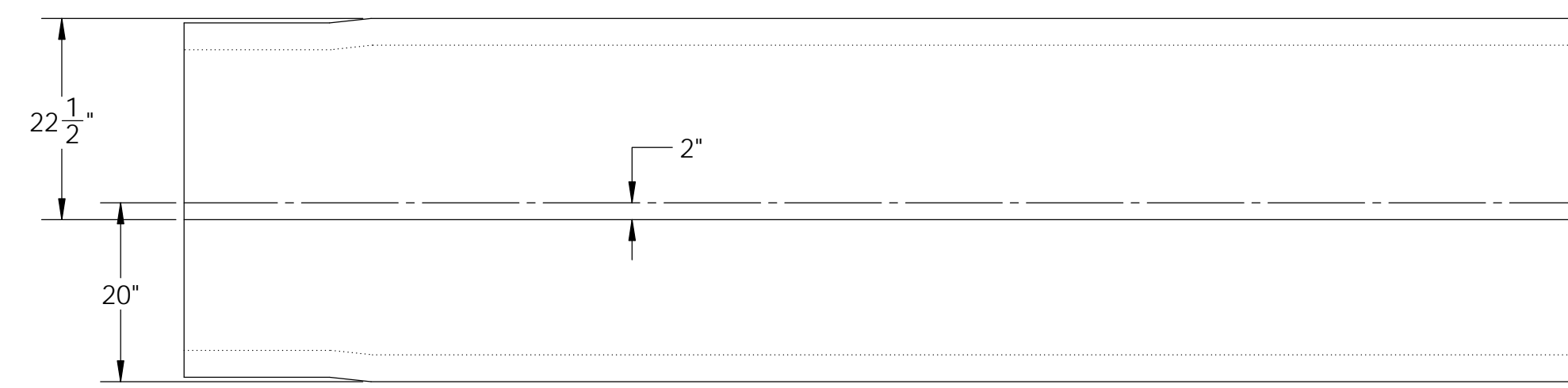
PLY # 5 - 54 oz



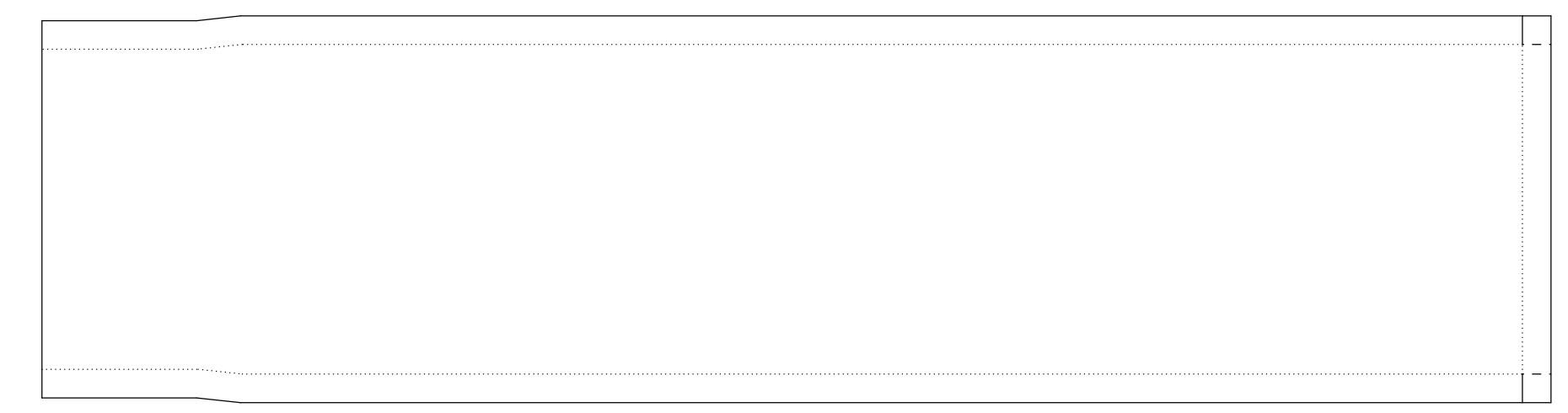
PLY # 6 - 54 oz



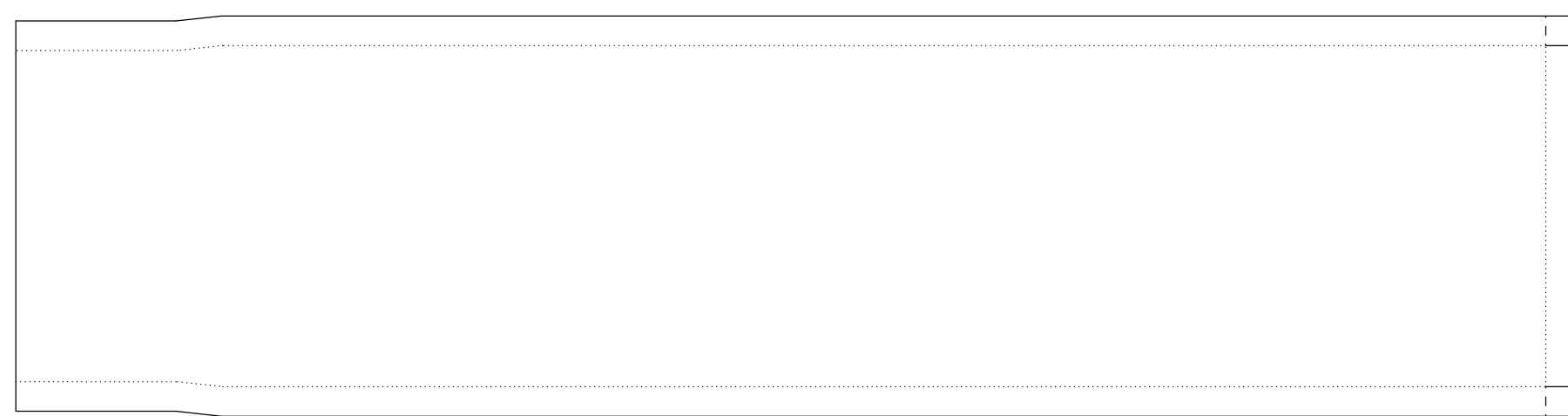
PLY # 7 - 54 oz



PLY #8 - 54 oz



PLY # 9 - 54 oz



PLY # 10 - 4008



REV	DESCRIPTION	DATE
1	ADDED CORNER CUT OUT NOTE	6/26/14
1	ADDED 2" OVERLAP ON NOTED 54 OZ PLIES	6/26/14

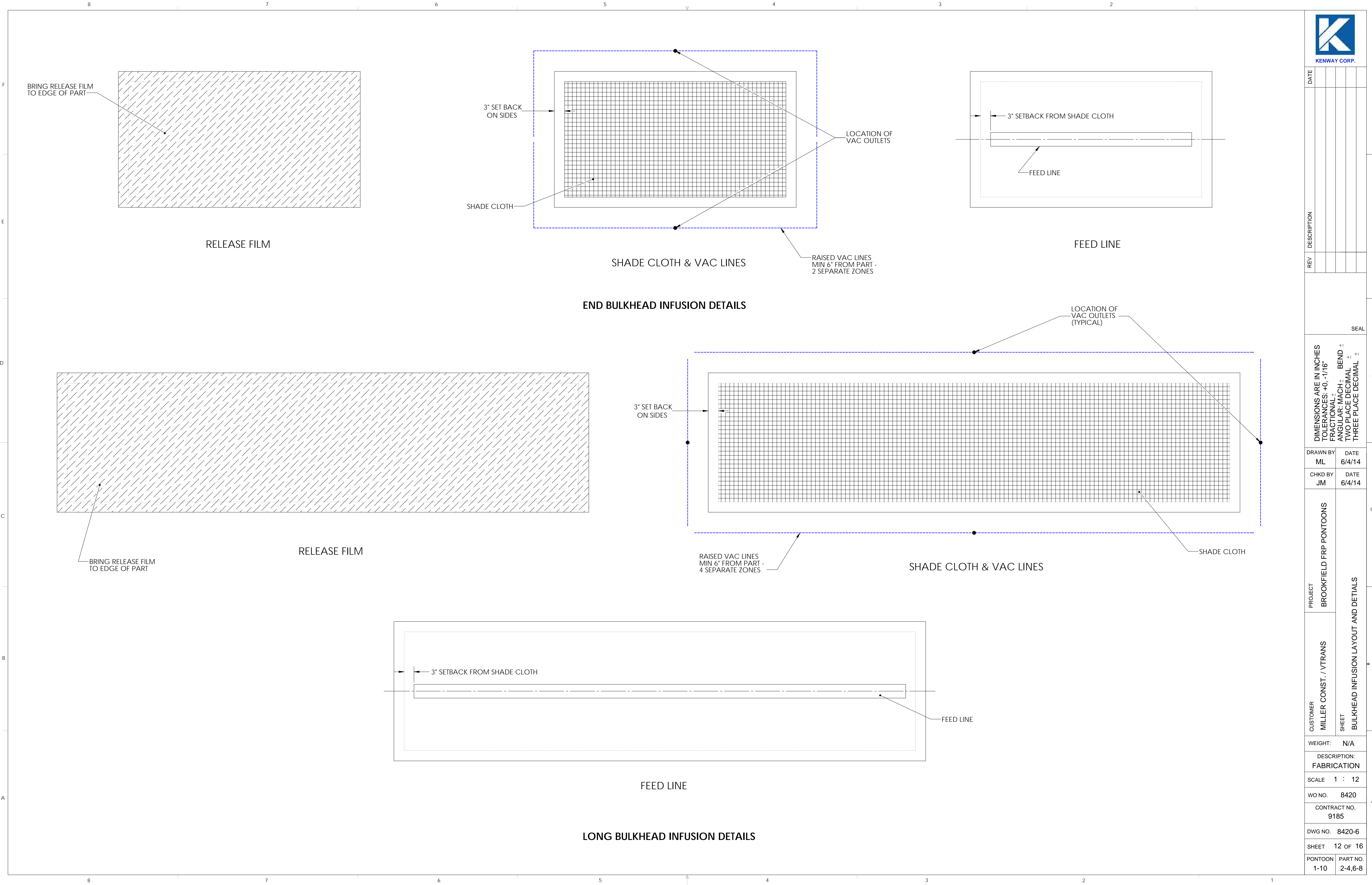
SEAL

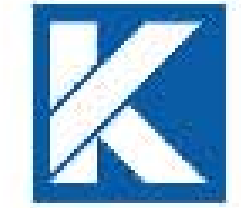
DIMENSIONS ARE IN INCHES
TOLERANCES: +0, -1/16"
FRACTIONAL ±
ANGULAR: MACH ± BEND ±
TWO PLACE DECIMAL ±
THREE PLACE DECIMAL ±

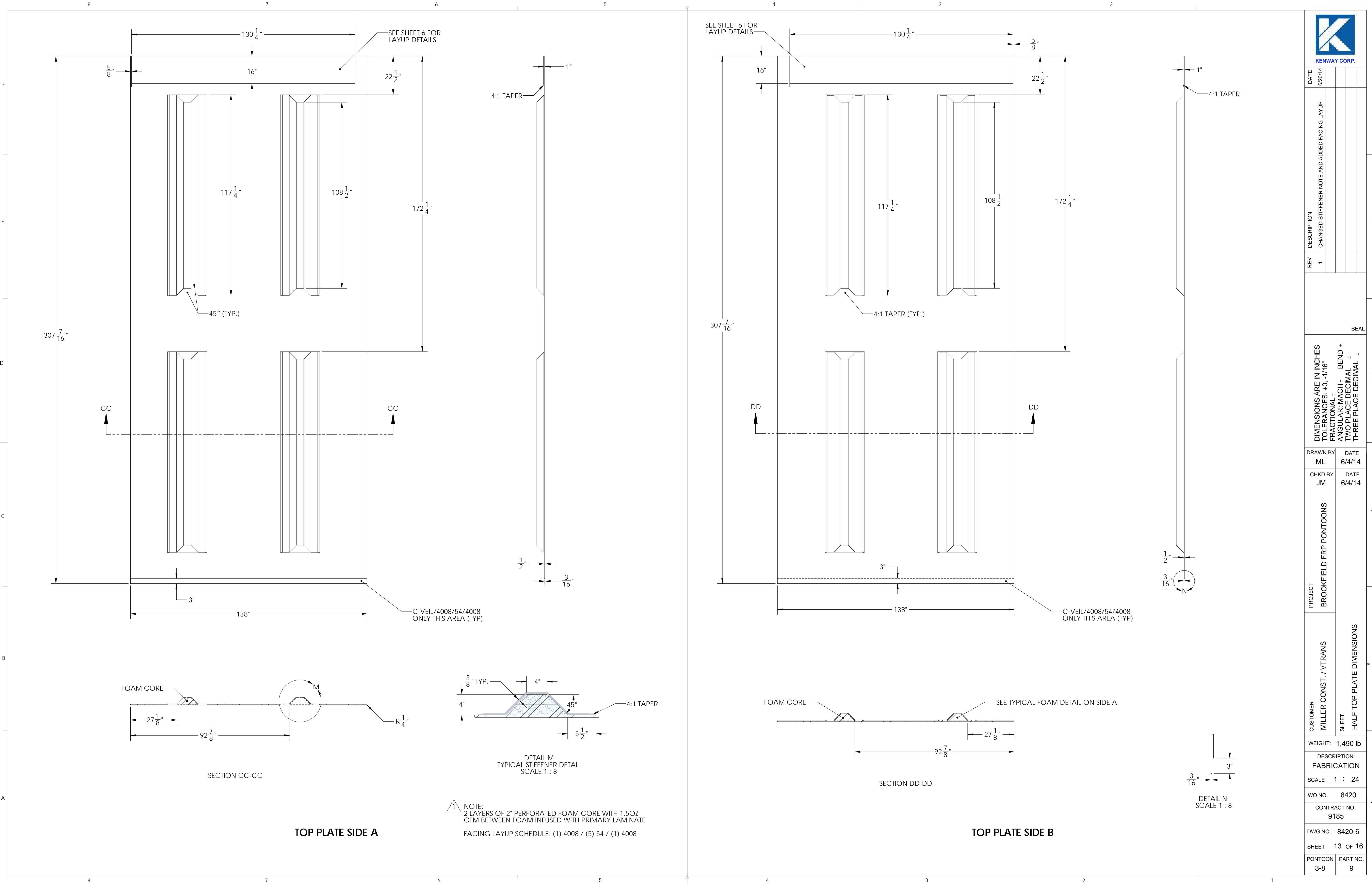
DRAWN BY ML	DATE 6/4/14
CHKD BY JM	DATE 6/4/14


CUSTOMER MILLER CONST. / VTRANS	PROJECT BROOKFIELD FRP PONTOONS
SHEET	
END LONGITUDINAL BULKHEAD LAYUP SCHEDULE	

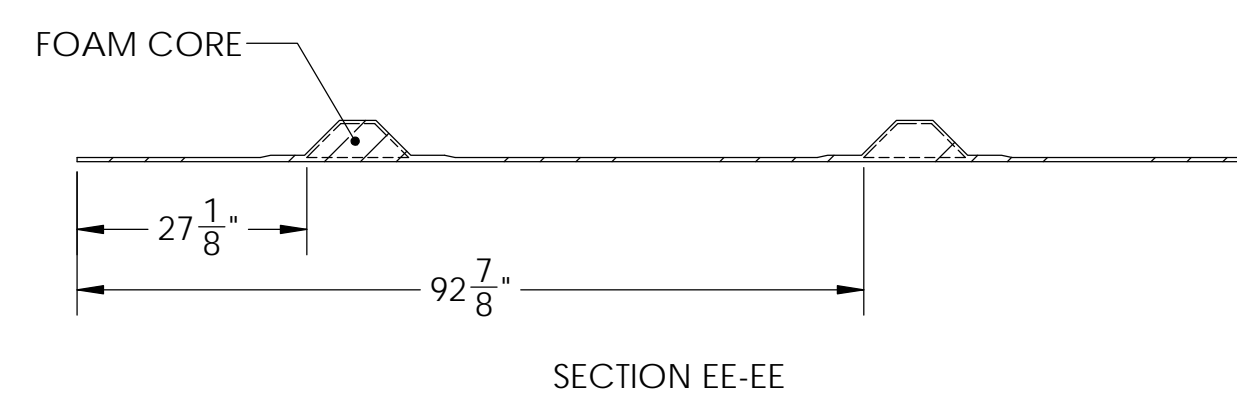
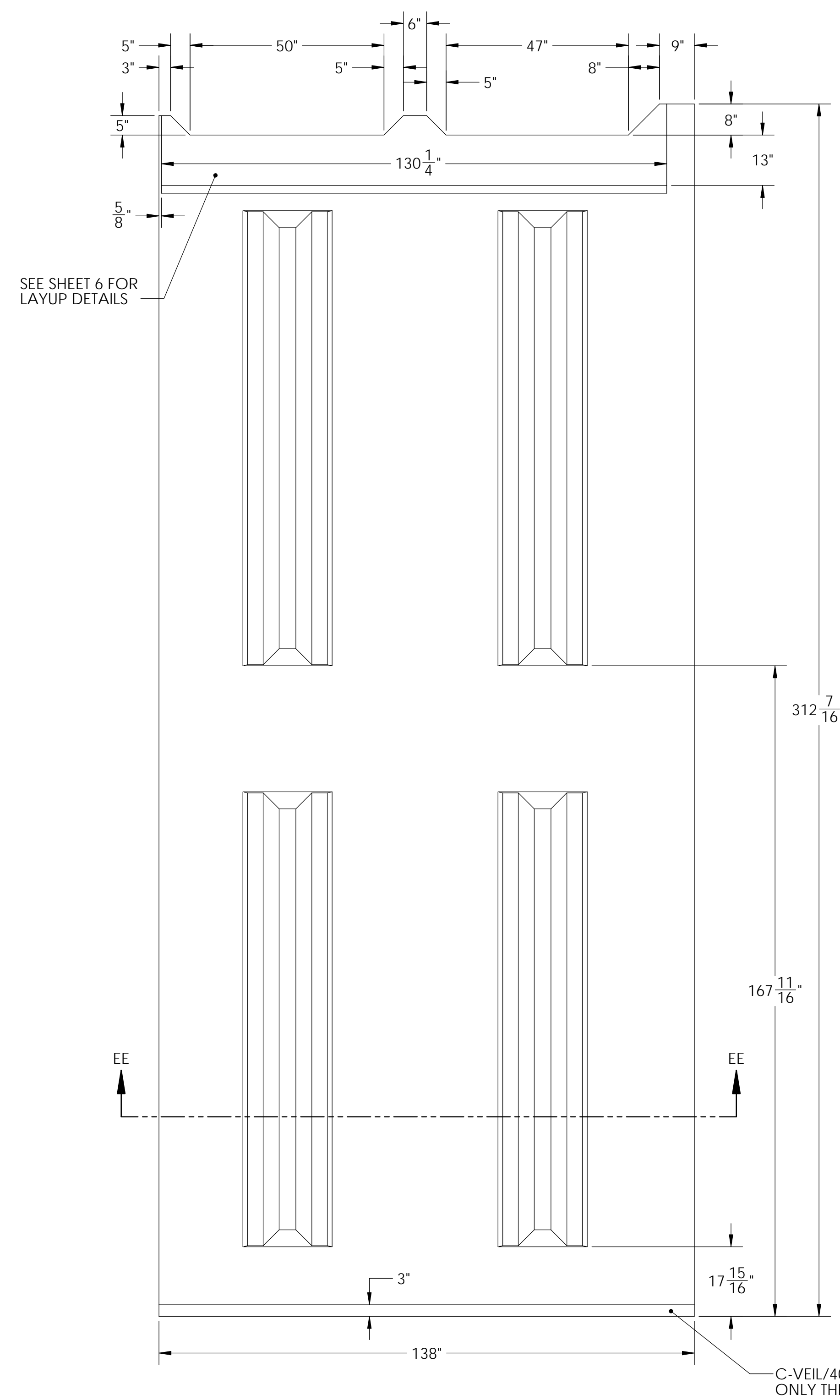
WEIGHT: 223 lb	
DESCRIPTION: FABRICATION	
SCALE 1 : 18	
WO NO. 8420	
CONTRACT NO. 9185	
DWG NO. 8420-6	
SHEET 11 OF 16	
PONTOON 1-10	PART NO. 4



 KENWAY CORP.	
DATE	
REV	
DESCRIPTION	
SEAL	
DIMENSIONS ARE IN INCHES TOLERANCES: +0, -1/16" FRACTIONAL + ANGULAR: MACH + TWO PLACE DECIMAL + THREE PLACE DECIMAL +	
DRAWN BY ML	DATE 6/4/14
CHKD BY JM	DATE 6/4/14
CUSTOMER MILLER CONST. / VTRANS	PROJECT BROOKFIELD FRP PONTOONS
SHEET	BULKHEAD INFUSION LAYOUT AND DETAILS
WEIGHT: N/A	
DESCRIPTION: FABRICATION	
SCALE 1 : 12	
WO NO. 8420	
CONTRACT NO. 9185	
DWG NO. 8420-6	
SHEET 12 OF 16	
PONTOON 1-10	PART NO. 2-4,6-8

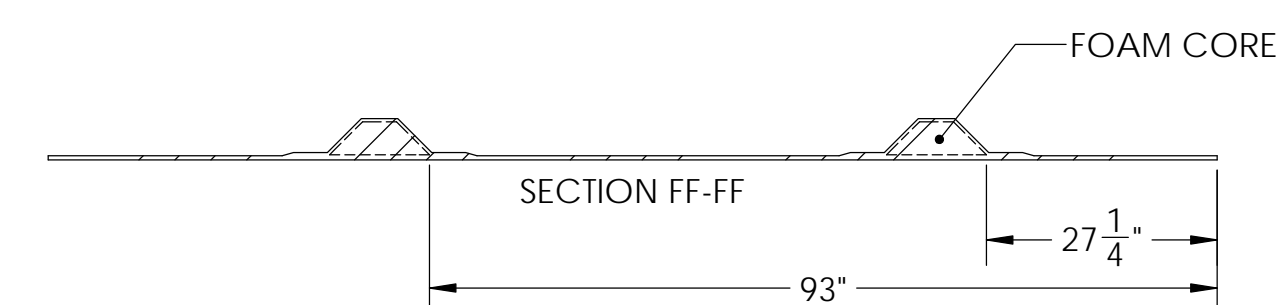
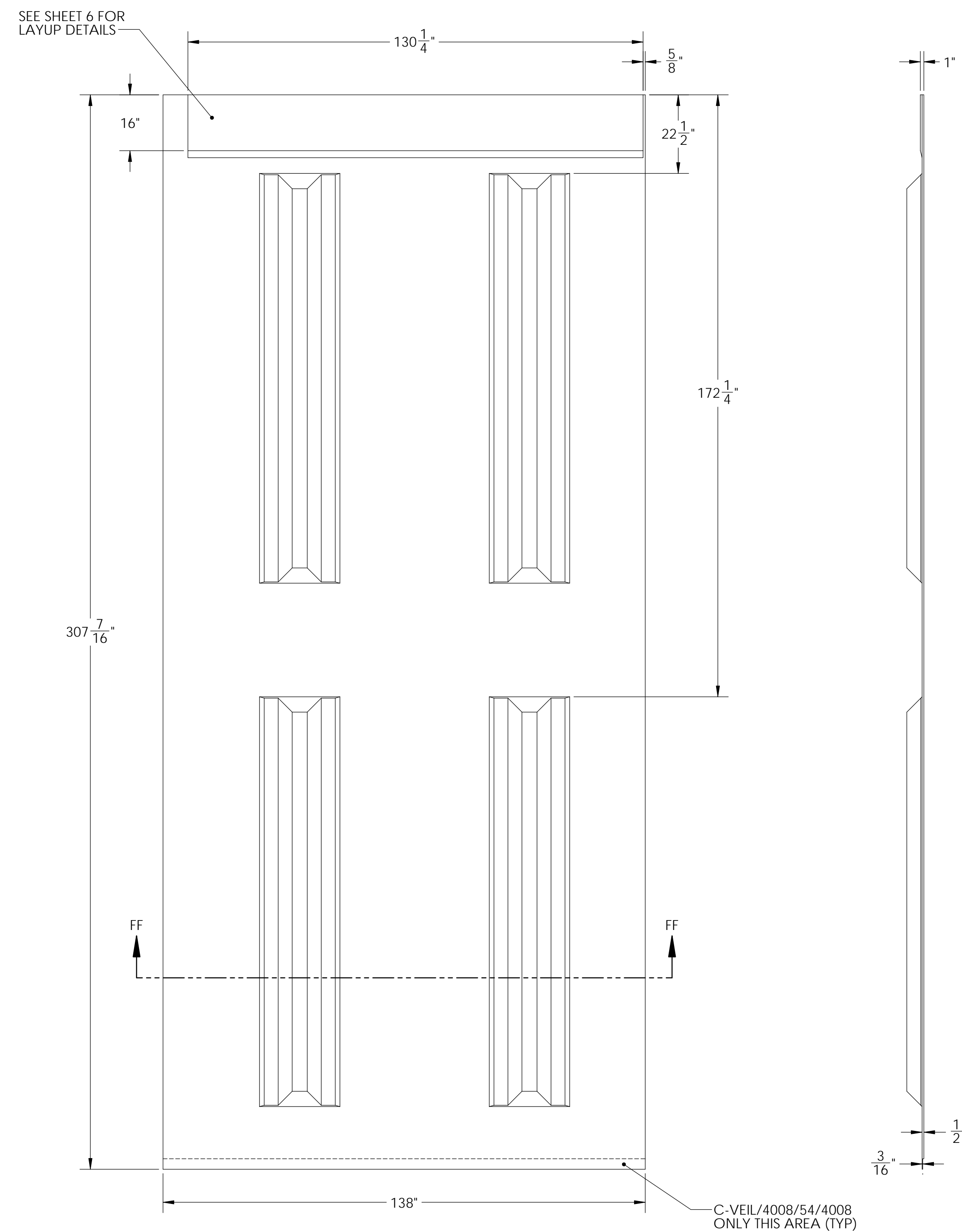


	
DATE	6/26/14
DESCRIPTION	CHANGED STIFFENER NOTE AND ADDED FACING LAYUP
REV	1
SEAL	
DIMENSIONS ARE IN INCHES TOLERANCES: +0, -1/16" FRACTIONAL + ANGULAR: MACH + TWO PLACE DECIMAL + THREE PLACE DECIMAL +	
DRAWN BY	ML
DATE	6/4/14
CHKD BY	JM
DATE	6/4/14
PROJECT	BROOKFIELD FRP PONTOONS
CUSTOMER	MILLER CONST. / VTRANS
SHEET	HALF TOP PLATE DIMENSIONS
WEIGHT:	1,490 lb
DESCRIPTION:	FABRICATION
SCALE	1 : 24
WO NO.	8420
CONTRACT NO.	9185
DWG NO.	8420-6
SHEET	13 OF 16
PONTOON	3-8
PART NO.	9




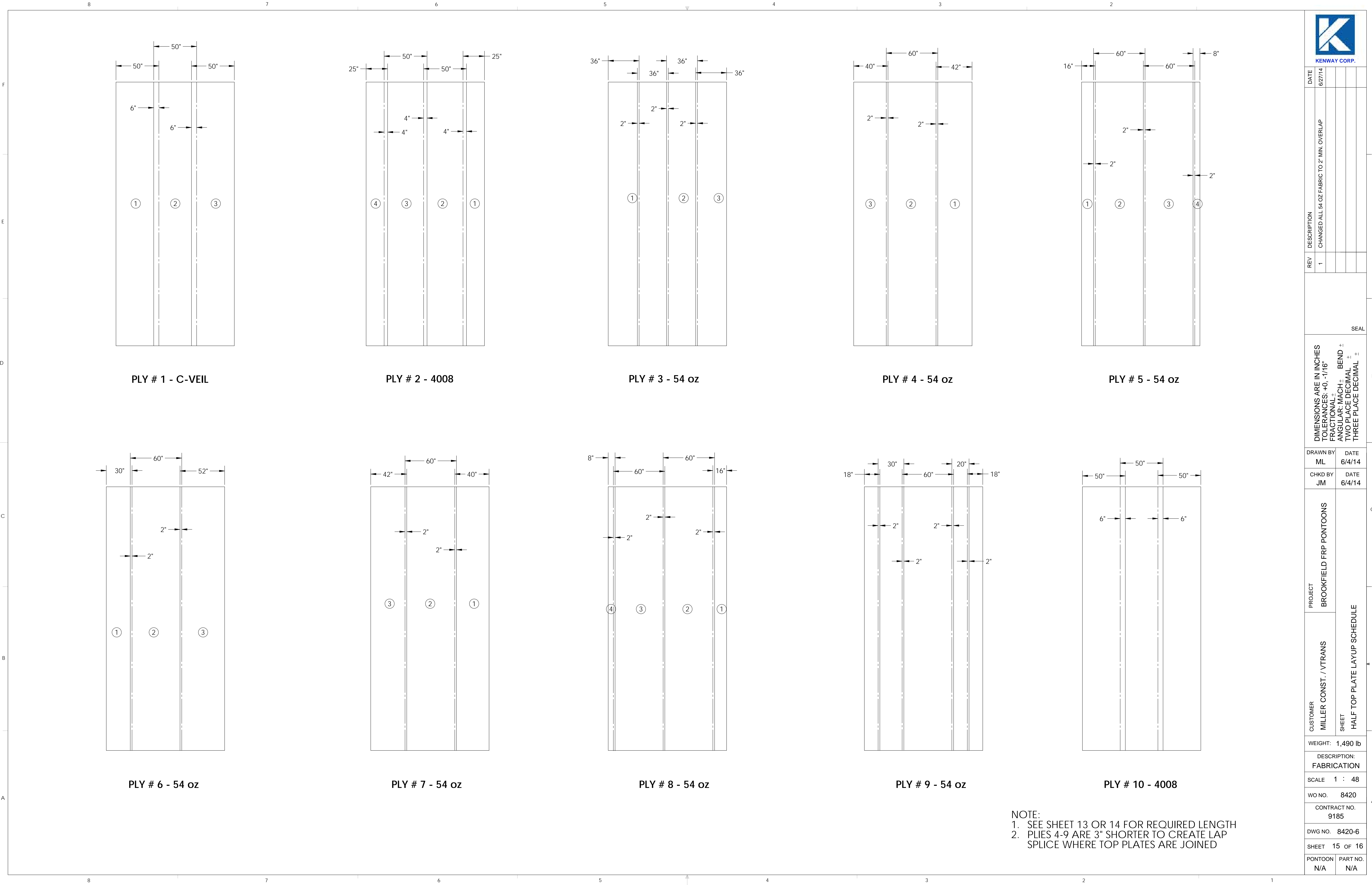
TOP PLATE SIDE A

1 NOTE:
2 LAYERS OF 2" PERFORATED FOAM CORE WITH 1.5OZ
CFM BETWEEN FOAM INFUSED WITH PRIMARY LAMINATE
FACING LAYUP SCHEDULE: (1) 4008 / (5) 54 / (1) 4008
SEE DETAIL M ON SHEET 13

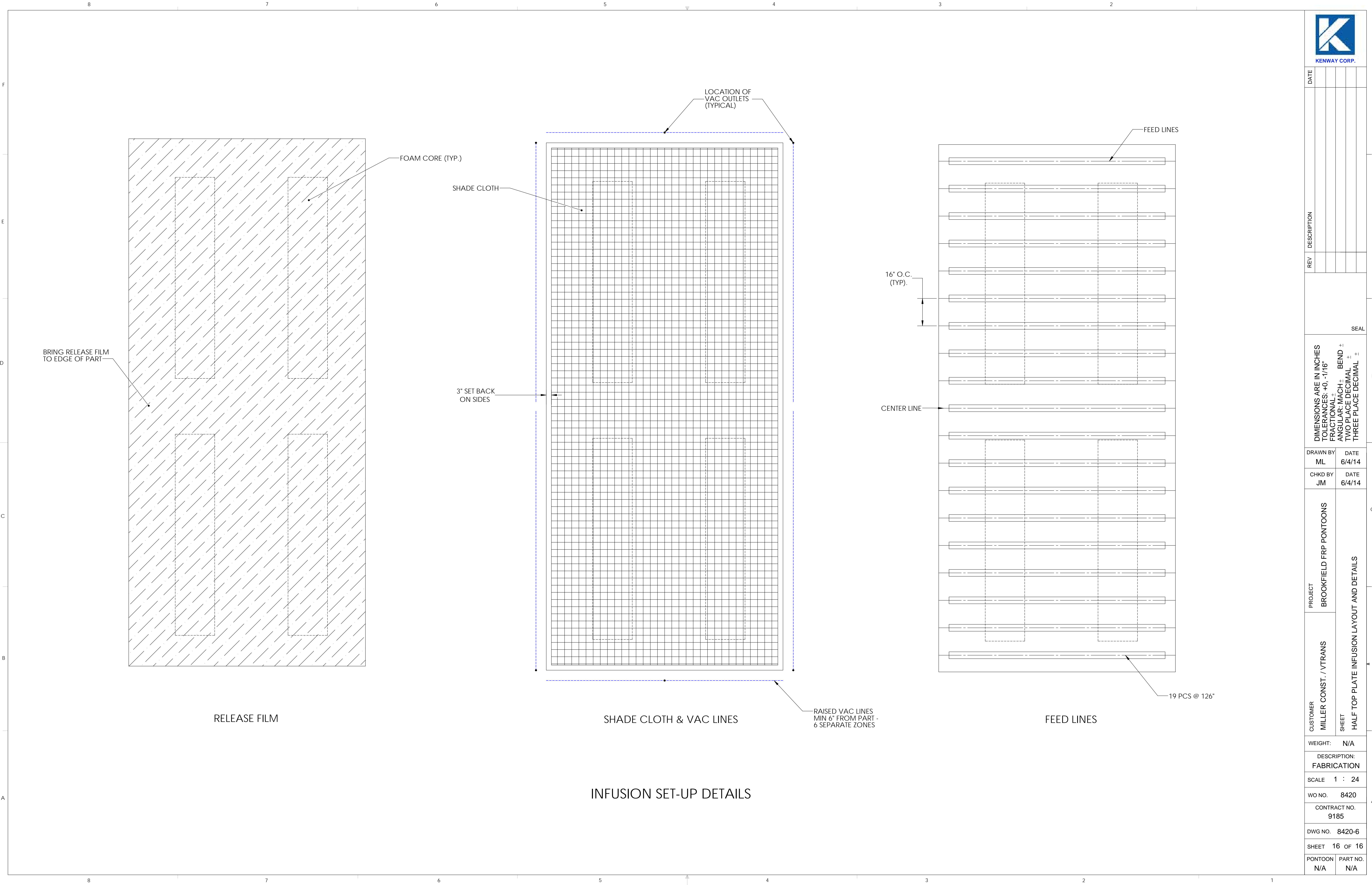


TOP PLATE SIDE B

 KENWAY CORP.		DATE	6/26/14	
REV	DESCRIPTION	CHANGED STIFFENER NOTE AND ADDED FACING LAYUP		
1				
		SEAL		
DIMENSIONS ARE IN INCHES TOLERANCES: +0, -1/16" FRACTIONAL + ANGULAR: MACH + BEND + TWO PLACE DECIMAL + THREE PLACE DECIMAL +		DRAWN BY	ML	DATE
				6/4/14
		CHKD BY	JM	DATE
				6/4/14
CUSTOMER	PROJECT			
MILLER CONST. / VTRANS	BROOKFIELD FRP PONTOONS			
SHEET				
END HALF TOP PLATE DIMENSIONS				
WEIGHT: 1,490 lb				
DESCRIPTION:				
FABRICATION				
SCALE	1 : 24			
WO NO.	8420			
CONTRACT NO.		9185		
DWG NO.	8420-6			
SHEET	14	OF 16		
PONTOON	1,2,9,10	PART NO.		9



DATE	6/27/14
REV	1
DESCRIPTION	CHANGED ALL 54 OZ FABRIC TO 2' MIN. OVERLAP
SEAL	
DIMENSIONS ARE IN INCHES TOLERANCES: +0, -1/16" FRACTIONAL: + ANGULAR: MACH + TWO PLACE DECIMAL + THREE PLACE DECIMAL +	
DRAWN BY	ML
DATE	6/4/14
CHKD BY	JM
DATE	6/4/14
PROJECT	BROOKFIELD FRP PONTOONS
CUSTOMER	MILLER CONST. / VTRANS
SHEET	HALF TOP PLATE LAYUP SCHEDULE
WEIGHT:	1,490 lb
DESCRIPTION:	FABRICATION
SCALE	1 : 48
WO NO.	8420
CONTRACT NO.	9185
DWG NO.	8420-6
SHEET	15 OF 16
PONTOON	N/A
PART NO.	N/A



STATE OF VERMONT

BROOKFIELD FLOATING BRIDGE

BRIDGE REPLACEMENT PROJECT

PROJECT NAME: BROOKFIELD

PROJECT NUMBER: BRF FLBR (2)

JUNE 4, 2014

FIBER REINFORCED POLYMER (FRP) PONTOON COMPONENT ASSEMBLY

SELECT THE PROPER SPACERS WHEN DRY FITTING
PARTS TO MAINTAIN NECESSARY BONDLINE -
NOMINAL GAP IS 1/4" (HAVE 3/16" & 5/16" AVAILABLE)

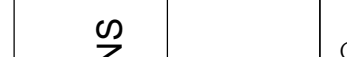
- 

DATE	26/14				
------	-------	--	--	--	--

IN I
-1/1
MAL
CIM.

DRAWN BY	DATE
----------	------

CHKD BY	DATE
---------	------



SN		
----	--	--

TOO		
-----	--	--

WEIGHT: 5,195 LB

DESCRIPTION:
ASSEMBLY

SCALE 1 : 36

WO NO.	8420
--------	------

CONTRACT NO.	
--------------	--

9185

DWG NO. 8420-8

SHEET 1 OF 5

PONTOON	PART NO.
N/A	N/A



WO NO.	8420
--------	------

CONTRACT NO.
0185

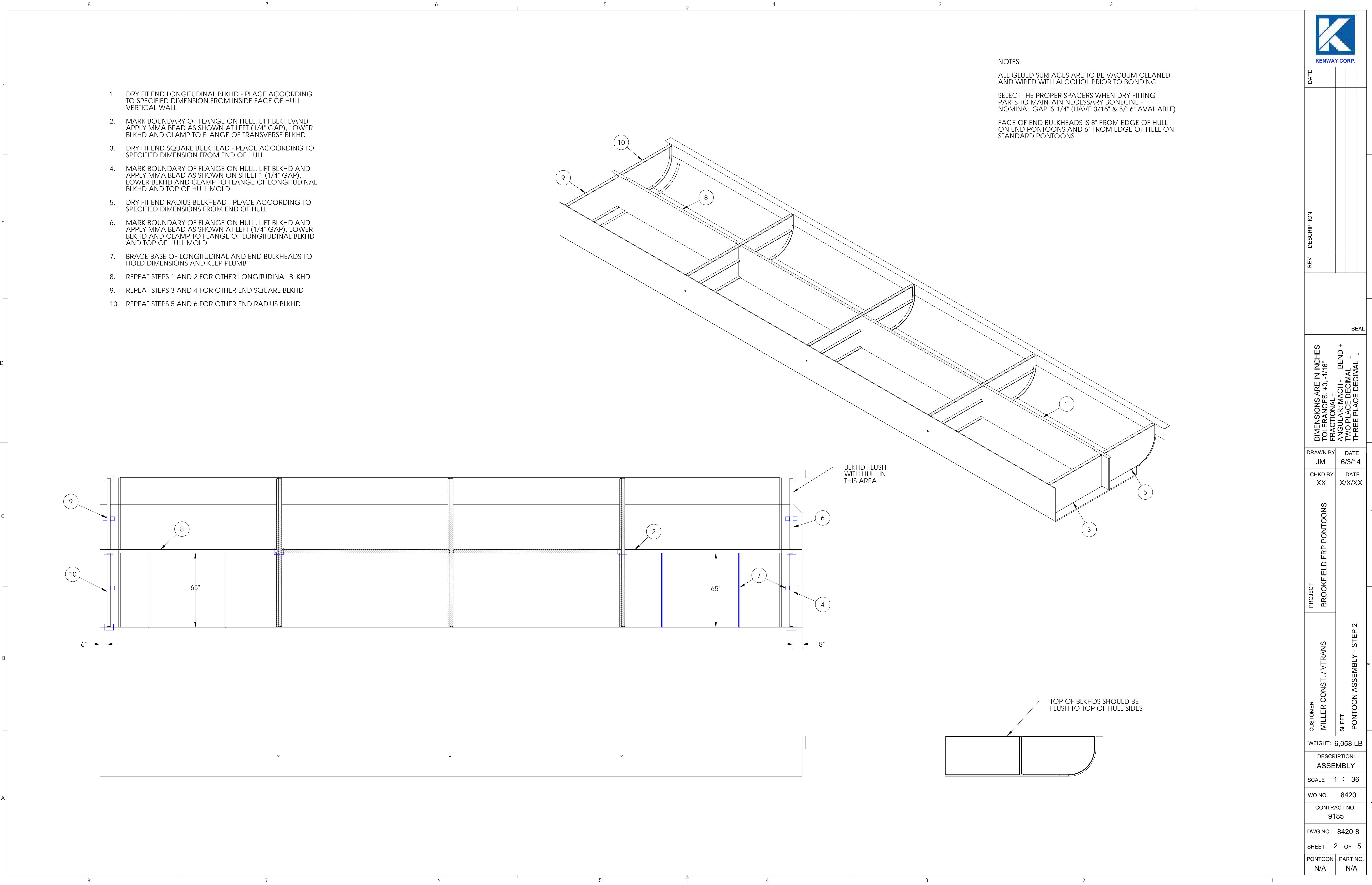
9185

DWG NO. 8420-8

SHEET 1 OF 5

PONTOON	PART NO
---------	---------

N/A	N/A
-----	-----



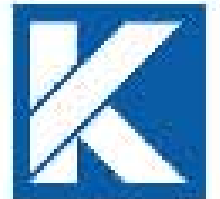
1. DRY FIT END LONGITUDINAL BLKHD - PLACE ACCORDING TO SPECIFIED DIMENSION FROM INSIDE FACE OF HULL VERTICAL WALL
2. MARK BOUNDARY OF FLANGE ON HULL, LIFT BLKHD AND APPLY MMA BEAD AS SHOWN AT LEFT (1/4" GAP), LOWER BLKHD AND CLAMP TO FLANGE OF TRANSVERSE BLKHD
3. DRY FIT END SQUARE BULKHEAD - PLACE ACCORDING TO SPECIFIED DIMENSION FROM END OF HULL
4. MARK BOUNDARY OF FLANGE ON HULL, LIFT BLKHD AND APPLY MMA BEAD AS SHOWN ON SHEET 1 (1/4" GAP), LOWER BLKHD AND CLAMP TO FLANGE OF LONGITUDINAL BLKHD AND TOP OF HULL MOLD
5. DRY FIT END RADIUS BULKHEAD - PLACE ACCORDING TO SPECIFIED DIMENSIONS FROM END OF HULL
6. MARK BOUNDARY OF FLANGE ON HULL, LIFT BLKHD AND APPLY MMA BEAD AS SHOWN AT LEFT (1/4" GAP), LOWER BLKHD AND CLAMP TO FLANGE OF LONGITUDINAL BLKHD AND TOP OF HULL MOLD
7. BRACE BASE OF LONGITUDINAL AND END BULKHEADS TO HOLD DIMENSIONS AND KEEP PLUMB
8. REPEAT STEPS 1 AND 2 FOR OTHER LONGITUDINAL BLKHD
9. REPEAT STEPS 3 AND 4 FOR OTHER END SQUARE BLKHD
10. REPEAT STEPS 5 AND 6 FOR OTHER END RADIUS BLKHD

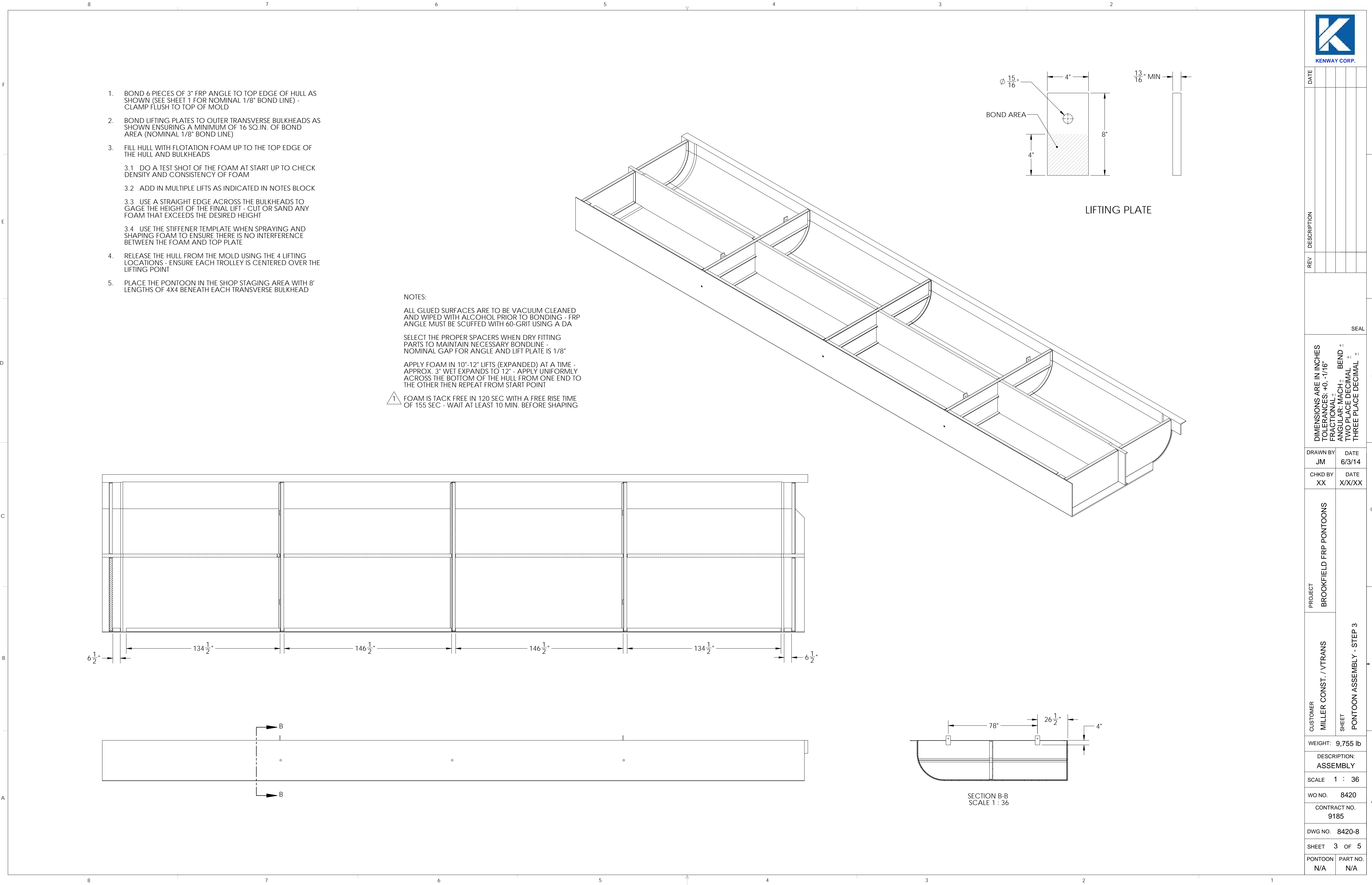
NOTES:


ALL GLUED SURFACES ARE TO BE VACUUM CLEANED AND WIPED WITH ALCOHOL PRIOR TO BONDING

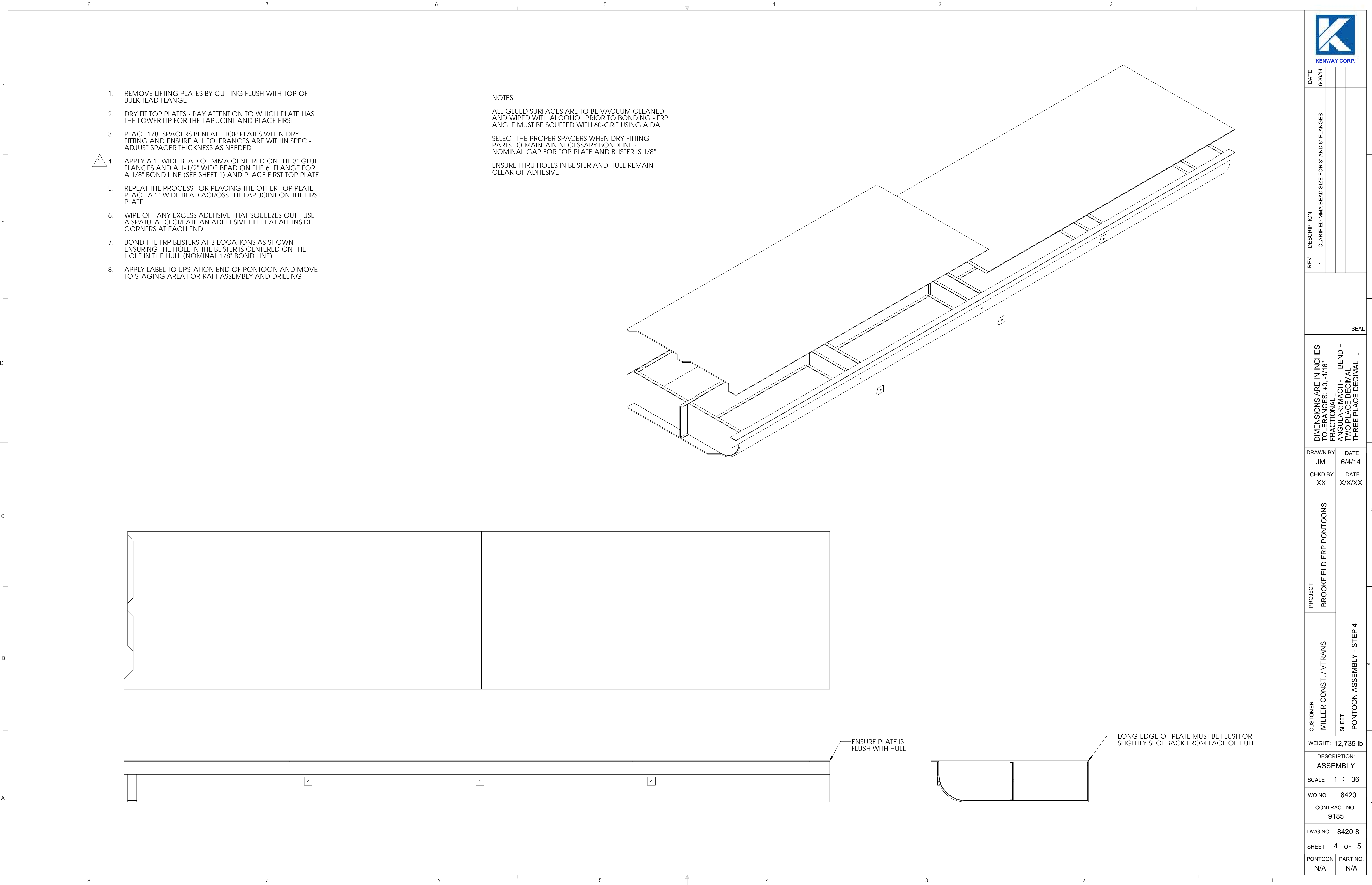
SELECT THE PROPER SPACERS WHEN DRY FITTING PARTS TO MAINTAIN NECESSARY BONDLINE - NOMINAL GAP IS 1/4" (HAVE 3/16" & 5/16" AVAILABLE)

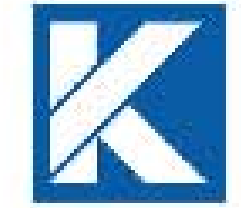
FACE OF END BULKHEADS IS 8" FROM EDGE OF HULL ON END PONTOONS AND 6" FROM EDGE OF HULL ON STANDARD PONTOONS

 KENWAY CORP.	
DATE	
DESCRIPTION	
REV	
SEAL	
DIMENSIONS ARE IN INCHES TOLERANCES: +0, -1/16" FRACTIONAL + ANGULAR: MACH + TWO PLACE DECIMAL + THREE PLACE DECIMAL +	
DRAWN BY JM	DATE 6/3/14
CHKD BY XX	DATE X/X/XX
PROJECT BROOKFIELD FRP PONTOONS	C PONTON ASSEMBLY - STEP 2
CUSTOMER MILLER CONST. / VTRANS	
SHEET	
WEIGHT: 6,058 LB	
DESCRIPTION: ASSEMBLY	
SCALE 1 : 36	
WO NO. 8420	
CONTRACT NO. 9185	
DWG NO. 8420-8	
SHEET 2 OF 5	
PONTOON N/A	PART NO. N/A



 KENWAY CORP.		
DATE		
REV		
DESCRIPTION		
SEAL		
DIMENSIONS ARE IN INCHES TOLERANCES: +0, -1/16" FRACTIONAL: + ANGULAR: MACH: + TWO PLACE DECIMAL: + THREE PLACE DECIMAL: +		
DRAWN BY JM	DATE 6/3/14	
CHKD BY XX	DATE X/X/XX	
PROJECT BROOKFIELD FRP PONTOONS	PANTOON ASSEMBLY - STEP 3	
CUSTOMER MILLER CONST. / VTRANS SHEET		
WEIGHT: 9,755 lb		
DESCRIPTION: ASSEMBLY		
SCALE 1 : 36		
WO NO. 8420		
CONTRACT NO. 9185		
DWG NO. 8420-8		
SHEET 3 OF 5		
PONTOON N/A	PART NO. N/A	





KENWAY CORP.

DATE	6/26/14				
DESCRIPTION	CLARIFIED MMA BEAD SIZE FOR 3" AND 6" FLANGES				
REV	1				

SEAL

DIMENSIONS ARE IN INCHES
TOLERANCES: +0, -1/16"
FRACTIONAL: +
ANGULAR: MACH +
TWO PLACE DECIMAL +
THREE PLACE DECIMAL +

DRAWN BY	JM	DATE	6/4/14
CHKD BY	XX	DATE	X/X/XX

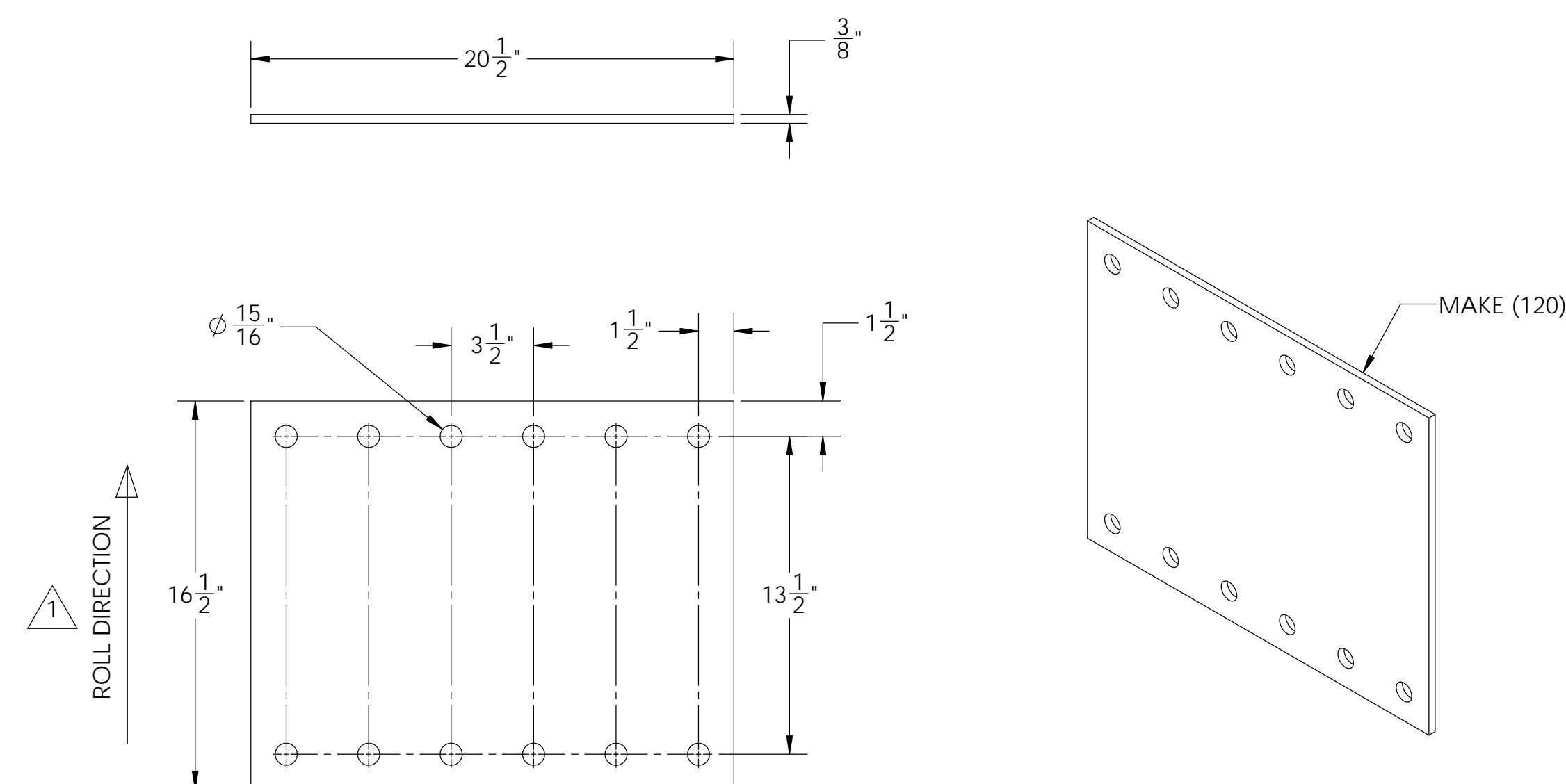
PROJECT	BROOKFIELD FRP PONTOONS
CUSTOMER	MILLER CONST. / VTRANS
SHEET	PONTOON ASSEMBLY - STEP 4

WEIGHT:	12,735 lb
DESCRIPTION:	ASSEMBLY
SCALE	1 : 36
WO NO.	8420
CONTRACT NO.	9185
DWG NO.	8420-8
SHEET	4 OF 5
PONTOON	N/A
PART NO.	N/A

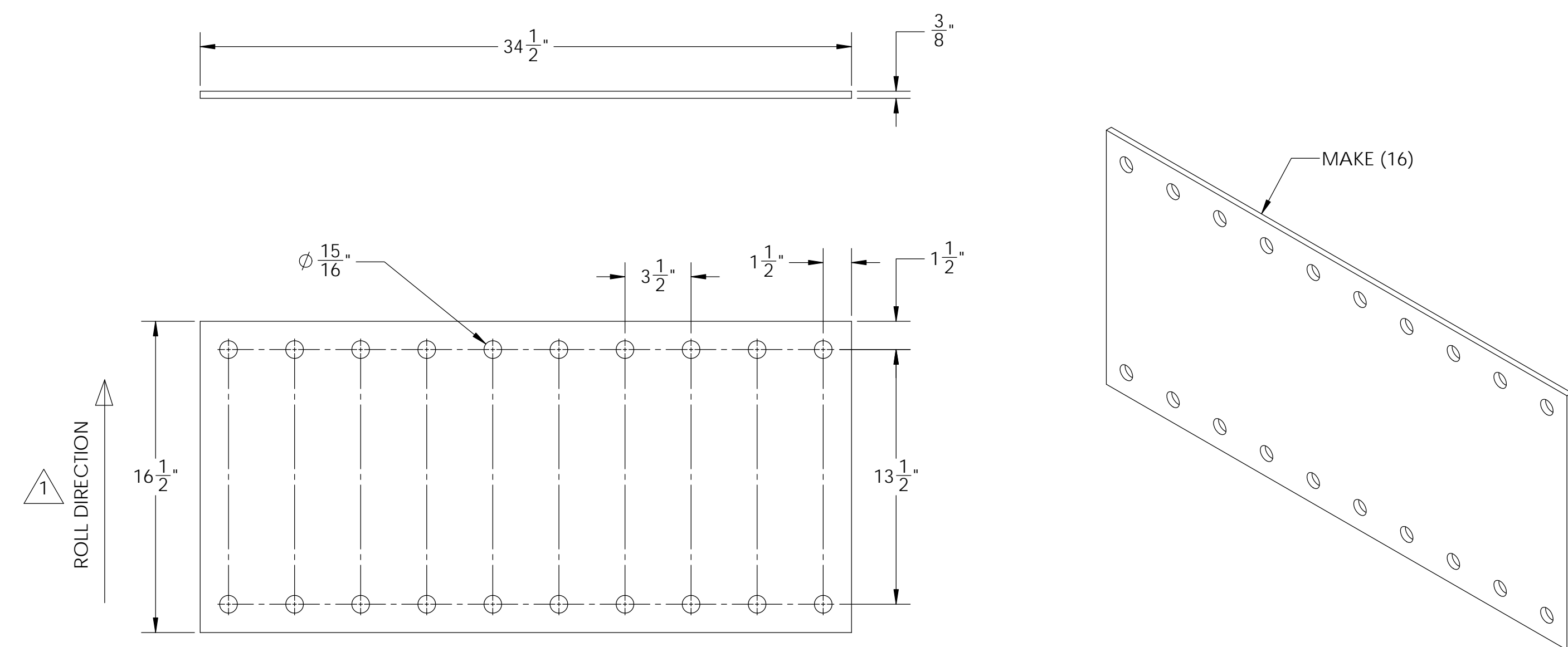


REMOVE TEMPLATE AND DRILL 15/16" THRU HOLES
USING A MAG DRILL TO ENSURE ACCURACY

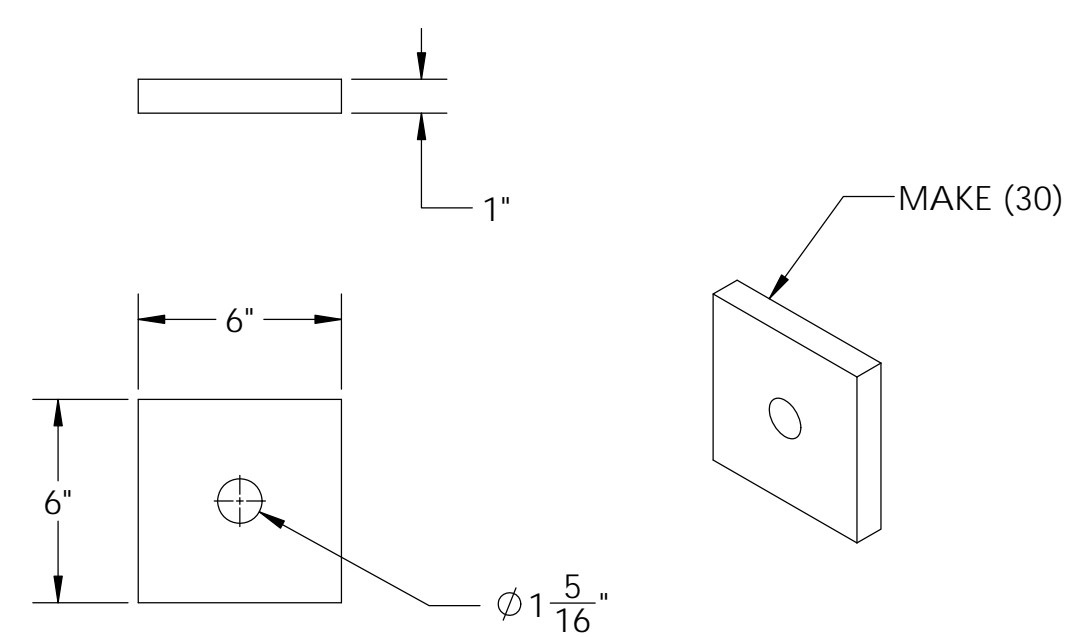
CONTRACT NO.



GALVANIZED SPLICE PLATE - SHORT



GALVANIZED SPLICE PLATE - LONG



GALVANIZED BEARING PLATE

1 NOTES:

1. STRUCTURAL STEEL SHALL MEET AASHTO M 270M/M 270, GRADE 50 (50 KSI) STEEL
2. STRUCTURAL STEEL SHALL BE CHARPY V-NOTCH TESTED PER AASHTO T 243
3. STRUCTURAL STEEL SHALL BE GALVANIZED IN CONFORMANCE WITH AASHTO M 111M/M 111
4. STEEL HARDWARE SHALL MEET REQUIREMENTS OF ASTM A325, TYPE I (7/8" Ø BOLTS THROUGHOUT)
5. STEEL HARDWARE SHALL BE MECHANICALLY GALVANIZED IN ACCORDANCE WITH AASHTO M 298, CLASS 50, TYPE 1
6. THREADED ROD SHALL MEET THE REQUIREMENTS OF ASTM A615, GRADE 75 (1-1/4" Ø THROUGHOUT)
7. THREADED ROD NUTS SHALL BE IN ACCORDANCE WITH ASTM A108
8. THREADED ROD WASHERS SHALL BE IN ACCORDANCE WITH ASTM F436
9. BEARING PLATES SHALL MEET THE REQUIREMENTS OF AASHTO M 270M/M 270, GRADE 36 (36 KSI)
10. THREADED ROD COMPONENTS SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M 111M/M 111 (PRODUCTS) OR AASHTO M 232M/M 232 (HARDWARE)

CUSTOMER		PROJECT		DRAWN BY		DATE	
MILLER CONST. / VTRANS		BROOKFIELD FRP PONTOONS		JM		5/29/11	
WEIGHT: N/A		SHEET		CHKD BY		DATE	
DESCRIPTION: GALVANIZED STEEL FABRICATION				XX		X/X/X	
SCALE 1 : 6							
C/O NO. 8420							
CONTRACT NO. 9185							
P/WG NO. 8420-7							
SHEET 1 OF							
P/NTON		P/NTON					
N/A		N/A					